DOCUMENT RESUME

ED 043 778 24 VT 011 941

AUTHOR Ganschow, Laurie H.; And Others
TITLE Stimulating Educational Information-Seeking and Changes in Student Attitude Toward Vocational Education by Videotape and Film Presentations. Final Report.
INSTITUTION American Institutes for Research in the Behavioral Sciences, Palo Alto, Calif.
SPONS AGENCY Office of Education (DHEW), Washington, D.C. Bureau of Research.
BUREAU NO BR-8-1-099
PUB DATE Aug 70
GRANT OEG-9-9-140099-0008(057)
NOTE 252p.

EDRS PRICE EDRS Price MF-$1.00 HC-$12.70
DESCRIPTORS *Behavior Patterns, Changing Attitudes, *Counseling, Educational Counseling, *Ethnic Groups, Films, *High School Students, Mexican Americans, *Models, Video Tape Recordings, Vocational Counseling

ABSTRACT

To help counselors develop appropriate models for students with different characteristics, this investigation involved two studies using films and videotapes in an effort to stimulate individuals to explore and to gather information on vocational educational opportunities. The key experimental phases of the two studies compared the relative influence of Mexican-American and non-Mexican-American social models on Mexican-American and non-Mexican American 10th grade subjects. Among the findings in Study A was that subjects who saw social models of an ethnic group like their own scored higher on the measure of the subject's interest in occupations and related activities than did subjects who saw models of an ethnic group unlike their own. In Study B it was found that Mexican-American subjects who saw the Mexican-American social models performed slightly more information-seeking behaviors, and made slightly more favorable attitude changes than did Mexican-American subjects who viewed non-Mexican-American models. Study B further suggested that films rather than written presentations are more favorably reacted to by all subjects and that female subjects responded to the treatment suggestions to engage in information seeking significantly more than did male subjects. (Author/JS)

BR 8-I-099
PA 24

AIR-716-8/70-FR

ED043778

FINAL REPORT

Project No. 8-1-099

Grant No. OEG-9-9-140099-0008(057)

STIMULATING EDUCATIONAL INFORMATION-SEEKING AND CHANGES IN STUDENT ATTITUDE TOWARD VOCATIONAL EDUCATION BY VIDEOTAPE AND FILM PRESENTATIONS

August 1970

AMERICAN INSTITUTES FOR RESEARCH

Post Office Box 1113 / Palo Alto, California 94302

AIR-761-8/70-FR

ED043778

FINAL REPORT

Project No. 8-1-099
Grant No. OEG-9-9-140099-0008(057)

STIMULATING EDUCATIONAL INFORMATION-SEEKING AND CHANGES IN STUDENT ATTITUDE TOWARD VOCATIONAL EDUCATION BY VIDEOTAPE AND FILM PRESENTATIONS

Laurie H. Ganschow
William E. Stilwell III
G. Brian Jones

American Institutes for Research
in the Behavioral Sciences
Palo Alto, California

August 1970

The project reported herein was performed pursuant to a grant from the U. S. Office of Education, Department of Health, Education, and Welfare. The opinions expressed, however, do not necessarily reflect the position or policy of the U. S. Office of Education, and no official endorsement by the U. S. Office of Education should be inferred.

U. S. Department of
HEALTH, EDUCATION, AND WELFARE
Office of Education
San Francisco Regional Office

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

TABLE OF CONTENTS

		PAGE
	LIST OF TABLES	v
	LIST OF FIGURES	vii
	ACKNOWLEDGEMENTS	viii
CHAPTER I.	PROBLEM, LITERATURE REVIEW, RATIONALE	1
	Problem 1	
	Review of the Literature 4	
	Fundamental Problem Area 4	
	Experimental Studies on Vocational Choice . 5	
	Rationale 6	
	Summary 9	
II.	EXPERIMENTAL DESIGN AND PROCEDURES--STUDY A . . 11	
	Experimental Design 11	
	Statement of Hypotheses 11	
	Subjects 15	
	Randomization Procedures 18	
	Experimental Treatments 19	
	Mexican-American Model Videotape Treatment. 19	
	Non-Mexican-American Model Videotape Treatment 22	
	Audiotape Treatment. 22	
	Videotape Script Treatment 22	
	Criterion Measures 23	
	Vocational Curricula Interest 23	
	Occupational Interest 23	
	Opinions Toward Vocational Education . .24	
	Educational Information-Seeking Behaviors 25	

CHAPTER PAGE

Experimental Procedures 28

Testing Procedures 28

Treatment Administration Procedures 29

Statistical Procedures 31

Occupational Interest Inventory 31

Project TALENT Interest Inventory . . . 31

Vocational Education Attitude Questionnaire 31

Educational Information-Seeking Inventory. 31

Student Reaction Sheet 32

III. RESULTS AND DISCUSSION--STUDY A 35

Experimental vs. Active Control Procedures . 35

Videotape Treatment Comparisons 38

Control Treatment Comparisons 44

Videotape and Audiotape Comparisons 46

Supplemental Results. 46

Intercorrelation Matrix 51

Summary 51

IV. EXPERIMENTAL DESIGN AND PROCEDURES-STUDY B . . . 54

Experimental Design 55

Statement of Hypotheses 55

Subjects and Randomization Procedures . . . 60

Experimental Film Treatments 60

Booklet Treatment 63

Baseline Control 63

Criterion Measures 64

CHAPTER PAGE

Experimental Procedures 64

Research Team 65

Treatment Administration Procedures . . . 65

Testing Procedures 66

Statistical Procedures 66

Vocational Education Attitude Questionnaire 66

Information-Seeking Inventory 66

Student Reaction Sheet 67

Summary 67

V. RESULTS AND DISCUSSION-STUDY B 68

Assessment of Attitude Change 68

Assessment of Educational Information-Seeking Behaviors 68

Assessment of Reactions to Treatment Conditions 71

Intercorrelation Matrix 76

Discussion. 78

Film Presentations vs. Booklet and Control 78

Film Comparisons 80

Booklet vs. Control 87

Analyses by Sex 88

VI. SUMMARY

Hypotheses 90

Method--Study A 91

Method--Study B 91

Criteria 92

Results--Study A 92

Results--Study B 94

APPENDICES PAGE

A A Random Order of Twenty-four Sequences of Four Experimental Conditions Taken Four at a Time. 97

B Occupational Interest Inventory 98

C Vocational Education Attitude Questionnaire . 99

D The Project TALENT Interest Inventory 101

E Getting Ready for Careers--Student Booklet . .107

F Getting Ready for Careers--A Script 124

G Student Reaction Sheet 166

H Schedule for Videotape and Soundtrack Presentation 167

I Educational Information-Seeking Behavior Inventory 168

J Instructions for Pre-Test, Treatment, and Post-Test Sessions 179

K Instructions for Follow-up Session 185

L Supplemental Results 186

M Mean Cell Scores for the Various Analytical Comparisons 193

N Complete Analyses of Covariance and Variance Results 198

O Introductory Film Scripts 208

P Student Response Booklet (Study A) 216

Q Baseline Control Announcement 227

R Instructions to Administrators for Study B Treatment and Control Administrators 228

S Instructions to Administrators for Study B Testing Sessions 235

REFERENCES 238

LIST OF TABLES

TABLE		PAGE
1	Proposed and Actual Number of Subjects in Each Cell of the Experimental Design (Study A)	16
2	Rank by Census Track of Indices for the Socioeconomic Level of Two Participating High Schools (Study A) . . .	17
3	Cell Means and Standard Deviations for Two Levels of Treatment (Experimental Videotapes vs. Active-Control Procedures) from two Ethnic Group Levels and Two Socioeconomic Levels	37
4a	Summary of Analysis of Covariance Results for Variance Components from Two Treatment Levels (Mexican-American model Videotape vs. non-Mexican-American model Videotape), Two Ethnic Groups, and Two Socioeconomic Levels	41
4b	Cell Means and Standard Deviations for Two Levels of Treatment (Mexican-American Ethnic Social Modeling vs. non-Mexican-American Ethnic Social Modeling) from Two Ethnic Group Levels and Two Socioeconomic Levels	42
5a	Summary of Analysis of Covariance for Variance Components from Two Treatment Levels (Audiotape vs. Script), Two Ethnic Groups, and Two Socioeconomic Levels	47
5b	Cell Means and Standard Deviations for Two Levels of Treatment (Audiotape vs. Script), from Two Ethnic Group Levels and Two Socioeconomic Levels	48
6	Cell Means and Standard Deviations for Two Levels of Treatment (Videotapes vs. Audiotape) from Two Ethnic Group Levels and Two Socioeconomic Levels	50
7	Summary of Covariance and Variance Results for Selected Variance Components from Sequential Analyses Conducted on Data Collected from Four Treatment Levels, Two Socio-economic Levels, and Two Ethnic Group Levels	53
8	Proposed and Actual Number of Subjects in Each Cell of the Experimental Design--Study B	59
9a	Analysis of Covariance: Vocational Education Attitude Questionnaire--Study B.	.60
9b	Means, Standard Devoations, and N for Vocational Education Attitude Questionnaire--Study B	.70

TABLE		PAGE
10a	Analyses of Variance: Educational Information-Seeking Behaviors--Study B.	72
10b	Means, Standard Deviations, and N for Educational Information-Seeking Behaviors--Study B	73
11a	Analysis of Variance: Reactions to the Film and Booklet Treatment Conditions--Study B	74
11b	Means, Standard Deviations, and N for Reactions to the Treatment Conditions--Study B.	75
12	Intercorrelation Matrix for the Four Variables of Study B.	77
13.	Analysis of Covariance and Variance for Selected Variance Components from Analyses of Student Reactions to Treatments--Study A	188
14.	Intercorrelation Matrix, Means, and Standard Deviations for six Crierion Measures--Study A. . . .	190

LIST OF FIGURES

FIGURE		PAGE
1	Overall Design for Conducting Study A	14
2	Overall Design for Conducting Study B	58
3	Performance of Educational Information-Seeking Behaviors: Ethnicity x Treatment	82
4	Attitude Toward Vocational Education: Ethnicity x Treatment--Study B	84
5	Student Reactions to the Treatment Conditions in Study B--Ethnicity x Treatment.	86

ACKNOWLEDGEMENTS

We would like to express our appreciation to those individuals who have provided encouragement, help, and critical support during the course of this project. Special thanks are due to Mr. Joe Bellinger and Mr. Roy Bursch from the staff of the San Jose Unified School District. The time and assistance they provided were invaluable. Mr. David Fleckless and Mr. Fred Sherwyn, coordinators of vocational education for the San Jose Unified School District also provided much assistance. From San Jose and Willow Glen high schools, Mr. Karl Pederson and Mr. Maynard Burton deserve thanks for acting as the coordinators. We wish to thank the following individuals from the staff of Abraham Lincoln High School for their assistance: Mr. Donald Lucas, principal; Miss Bonnie Thompson, vice principal; Mr. Gordon Fechter, vocational counselor; Mr. Sal Cesario and Mr. Richard Guarino, teachers.

CHAPTER I

PROBLEM, LITERATURE REVIEW, RATIONALE

Problem

There is a growing need for counseling and counseling techniques to encourage students to select and plan on a series of occupations in areas of related jobs rather than on a particular occupation (Wrenn, 1962; Gross, 1967). An important development in helping prepare students to select occupational areas rather than particular occupations has been the work of the Area Vocational Centers created and funded by the Vocational Education Act of 1963. These Centers, according to Venn (1965), are designed to provide local students with vocational education programs that are related to local employment demands. This approach is assumed to solve the difficult problem of motivating students to seek vocational information.

The encouragement of students to gather information about vocational training opportunities is a special problem for vocational counselors in particular. One solution would be to discover techniques which will stimulate interest and information-seeking behaviors relevant to the vocational training programs offered by these Centers. It is clear, however, that each possible counseling technique, in turn, suggests several lines of investigation. Two important examples would be the exploration of alternate strategies and the relative effectiveness of each strategy with students having various characteristics. Ultimately, one would hope to match specific counseling strategies with relevant student characteristics in order to obtain the desired student

behaviors. If a solution to this problem is found, it could be made applicable to vocational schools that may be having difficulty increasing the interest and enrollment of qualified students.

Two separate studies were conducted. The purpose of these studies was to test experimentally the effects of ethnic social modeling techniques on the vocational information-seeking behaviors, opinions, and interests of students who are of the same or not the same ethnic group as the models to which they are exposed. For this study, we have defined "information-seeking behaviors" to refer to overt, measurable, self-initiated action relevant to gathering information about vocational and educational planning.

It was our assumption that by providing models of similar ethnic characteristics we might enhance the specific outcomes desired. This assumption is based on the recent increase of comments appearing in the popular press which have suggested that persons having similar ethnic characteristics are better able to relate to students. By extension, then, we would like to test this concept in the counseling field.

The vocational counselor faces difficulties in his job which may be described as (1) providing students with information on current and projected needs for various skilled trades, (2) developing student interest in occupations related to these skills, and (3) promoting information-seeking behaviors related to possible training programs which will prepare students for vocational careers that current predictions indicate will be in demand in the near future.

All three tasks have been approached by counselors in a variety of ways. We propose the third task as one in need of serious research. It is clear that any counseling method selected must effect this last component in order to be successful. Considering that this third element of the vocational counselor's job is in itself an extremely complex issue, these investigations attempted to

explore counseling techniques for stimulating students to seek information about possible training programs.

Several studies on the attitudes and policies related to vocational education suggest that the counselor and student might be working under adverse conditions. Three interrelated factors have been cited as creating difficult problems for vocational counselors by adversely affecting student interest in vocational programs: (1) Vocational programs are used when no other program is available to students. A vocational educator (Snedden, 1938) and a sociologist (Passow, 1968) have both argued that vocational education programs have been used as a "dumping ground" for many school systems. Conant (1961) in his study of the American school system reported that students who were unable to meet the demands of either college preparatory or general education curricula were placed in these vocational education programs. (2) Vocational education programs are considered by many persons to be second-rate. Wenrich and Crowley (1964) analyzed questionnaires given to 2175 members of a school community and found that those parents, teachers, and school administrators who were not directly involved in vocational education considered these programs to be less respectable than college preparatory programs. (3) Some vocational education students perceive themselves to be less valued than students at academic high schools. Silverman (1963) studied 242 sophomore and junior boys' attitudes toward a vocational high school. She found that students had a low regard for vocational high school students, teachers, and the future value of the terminal curricula. If these attitudes are characteristic across the country, then the vocational counselor faces a monumental job.

We see the vocational counselor who is trying to work with these attitudes and policies faced with two questions: (1) How can students in general for whom vocational education might be a viable alternative be encouraged to gather

information about vocational training opportunities? (2) How can students be encouraged to seek information about the educational opportunities that are available at an Area Vocational Center? Implicit in both of these questions is the belief that the student has an active role as a decision maker in his vocational and educational planning. This belief is similar to that advanced by Clarke, Gelatt and Levine (1965) as well as Thoresen and Mehrens (1967).

Review of the Literature

Fundamental problem area. The major research efforts related to vocational counseling have focused, until recently, on the patterns of career choice and the developmental sequences of vocational interests. Usually these programs have been large-scale longitudinal and cross-sectional studies looking at the relationship between personality characteristics, age, sex, socioeconomic level, and vocational choices.

Holland (1964) reviewed five exemplary major research efforts related to vocational and career planning. In his review Holland included the longitudinal investigations such as Super's Career Pattern Study (Super, Starishevsky, Matlin & Jordaan, 1963) and Tiedeman's studies of career development (Tiedeman & O'Hara, 1963). He also reviewed those studies that used a cross-sectional approach to data gathering and analysis including the Project TALENT study of more than 440,000 students (Flanagan, Davis, Dailey, Shaycoft, Goldberg & Neyman, 1964), Roe's studies of the relationship between occupational choice and personality characteristics (1964), and Holland's own research on vocational behavior--a study conducted primarily with National Merit Scholarship recipients.

The contribution of these major studies has been in the development and extension of theories of vocational and career planning. Simultaneously they added to the vast amount of correlational data presently available on students

involved in career planning. While the theory-building implications of these major studies have been recognized, the studies have not been related in precise ways to counseling (Brayfield, 1964). Recently Thoresen and Mehrens (1967) have pointed out that these studies were descriptive and non-experimental in design, and therefore of limited utility to counselors concerned with assisting individuals. They offered little in the way of explanation of how vocational decisions are made by individuals. The essence of these comments points to a need for experimental studies on the relationship between student characteristics, counceling techniques, and vocational decision-making behaviors.

Experimental studies on vocational choice. Krumboltz and associates have explored a variety of counseling techniques designed to stimulate vocational and educational information-seeking behaviors which are integral parts of career decision making (Thoresen & Krumboltz, 1968). An example of this type of work is Sheppard's (1967) study which demonstrated that problem-solving workbooks promoted more student requests for additional information than did group counseling techniques. Subsequent studies by Krumboltz, Baker & Johnson (1968) corroborated the efficacy of the workbook approach over more traditional counseling. Another example of experimental work in counseling was reported by Jones (1966). He experimentally varied the amount and type of student-observer participation in a filmed presentation on banking occupations. The student participation involved problem-solving experiences at preselected points in the film. Jones found this method resulted in a higher frequency of information-seeking behaviors and produced greater interest in, and attitude changes toward banking than did a film with no participation, a standard banking film, a general vocational workbook, or a placebo control. His measures were scores on a Job Interest List, the Project TALENT Interest Inventory, a Banking Attitude Questionnaire, and a posttreatment Vocational Exploratory Behavior Inventory.

Rationale

The basic technique established in the above study was extended to this project. An attempt was made to stimulate students not only to gather information but to process it in an organized manner. The general purpose of the studies reported here may be summarized as providing controlled experimental conditions which would permit the study of a number of counseling techniques developed to help students in their vocational and educational decision making. These experimental studies contrast with the traditional, longitudinal studies of career development. They are an attempt at partially filling a void left by the better known research efforts.

Experimental studies on techniques for stimulating information-seeking behaviors have suggested additional areas of inquiry. More specifically, one such area involves the determination of the degree to which the ethnicity of the model in a presentation influences the information-seeking behavior of the observer. This issue is important to study in California because of the presence of Mexican-American students in the public schools. Counseling techniques specifically focusing on the Mexican-American students need to be investigated in order to determine their effectiveness in stimulating information-seeking and career planning.

Establishing the effectiveness of such counseling techniques could have important implications. There will be a continuing need for skilled workers (Salt, 1966). This need, particularly in California is not being met through current efforts. Furthermore, Woods (1964) states that the percentage of Mexican-Americans employed in the skilled trades in California is disproportionately low. Should counseling techniques be developed that would have an effect on the career planning of Mexican-American students then an educational and a projected vocational need might be met.

The experiments of Bandura and associates (1969) have shown that the observation of models can have an influence on the observer's behaviors. Bandura (1965, 1968) has found that a variety of behaviors can be modeled and imitated. Furthermore, the characteristics of social models have been investigated and found to influence the observer's behavior. Among the model characteristics that have been found to be important are age (Marsten, 1965), competence (Bandura & Kupers, 1964), credibility (Rosenbaum & Tucker, 1962), power (Mischel & Grusec, 1966), prestige (Asch, 1948), sex (Thoresen, Krumboltz & Varenhorst, 1967), status (Lefkowitz, Blake, & Mouton, 1955), and ethnic group (Epstein, 1966). However, the procedures by which specific model characteristics promote the imitation of different types of performance have not yet been clarified.

In a unique attempt to vary experimentally the ethnic group variable with respect to both models and observers Epstein (1966) presented Negro and Caucasian models acting aggressively toward a Negro. There was a differential modeling effect in that Caucasian college students were more aggressive after having viewed a Negro acting aggressively toward another Negro than they were after a Caucasian model acted aggressively toward the Negro. Bandura (1968), in commenting on Epstein's study, emphasized the need for more investigations which systematically vary the ethnic group of the model.

These studies in observational learning suggest that the characteristics of the model and what occurs after the model demonstrates certain behaviors have a strong influence on the subsequent behaviors of observers. Therefore, the use of modeling techniques appears to be a way to promote the observers' educational and vocational information-seeking and to modify the observers' interests and opinions about vocational education. The nature and degree of the effect of a social model's ethnic group membership was examined in the

current investigations by using Mexican-American and non-Mexican-American models in the experimental videotapes and films.

The type and extent of audience participation has been investigated in video-media research. These studies have demonstrated that treatments requiring audience activity resulted in more information gain by the audience than those treatments not requiring audience activity (Michael & Maccoley, 1961). Both studies reported here attempted to elicit audience participation by different techniques. Study A posed questions to the audience prior to their viewing the vignette in which the answer to the question would be found. In Study B, audience participation was achieved by answering questions which followed the viewing of each vignette.

Innovations in counseling have been encouraged by counselors such as Magoon (1964), who recommended the development of videotaped educational vignettes for use in a counseling center. More specifically, Weaver (1967) has advocated the use of videotapes for information presentation. Studies reviewed by Lumsdaine (1963) provide support for the employment of these media in instructional and, by implication, in counseling settings. Video media studies have almost all been aimed at measuring the instructional function of audiovisual instruments rather than their action-producing effects. Exceptions are found in two studies using films: Jones (1966), whose study was reported on earlier, and Weisgerber (1960), who explored the use of film techniques to increase students' scientific interests. Changes in interests were measured by the Strong Vocational Interest Blank, Kuder Preference Record, and a science scale.

Conflicting results have been obtained from those studies which compared video presentations with other media. For example, Campeau (1967) pointed out that studies comparing audio and visual techniques often failed to show differences in effectiveness as measured by information criteria. Also, Bandura

and Mischel (1965) compared the effects of two media for presenting a model sequence. These workers found no differences in effect between a filmed presentation and a written transcription of the soundtrack. Such findings are to be expected in studies that compare different media. These different media probably are stimulating different responses by the subjects and the overall effect is to eliminate any treatment differences. Because of these findings an audiotape and a script from the videotape were used as the active-control procedures in Study A. In Study B two film treatments were compared with a written booklet treatment.

Summary

In this chapter an attempt has been made to show that the underlying purpose of these studies was to conduct an experimentally oriented research project on vocational career development. Videotapes and films were used to stimulate students to engage in information-seeking behaviors subsequent to the viewing, and the effect of using models from the same or different ethnic groups was investigated on the basis of variables including: vocational information-seeking behaviors, interests, and opinions.

The theoretical basis of the studies was derived from Social Learning Theory. The primary techniques for presenting the vocational education information were a video taped series of vignettes (Study A) and filmed series of vignettes (Study B). Both studies involved student participation in the treatments. In Study A a set of questions was answered prior to each vignette, and in Study B questions were asked subsequent to each vignette.

The results of these investigations should help counselors in developing other appropriate models for students with different characteristics. If an

important factor is the relationship between the ethnic group of the social model and the ethnic group of the student observers could be found, then counselors could use specific kinds of models to increase the effectiveness of the counseling process.

The type of experimental comparison that the two studies permitted will be described in more detail in subsequent chapters. Study A will be completely reported first.

CHAPTER II

EXPERIMENTAL DESIGN AND PROCEDURES - STUDY A

The main purpose of this investigation was to test differential effects of ethnic social models on the vocational information-seeking behaviors, interests, and opinions of middle and lower socioeconomic level male tenth graders. Social models were incorporated into videotape presentations on four vocational curricula offered by an area vocational center. Criteria for treatment effectiveness included frequency of educational information-seeking behaviors during the three-week period following the presentations, and changes in interest and opinion scores.

Specific objectives of the experiment were as follows:

1. To compare the mean effectiveness of the two experimental videotape treatments with that of the two active-control conditions.

2. To compare the mean effectiveness of a Mexican-American-social model videotape treatment with the mean effectiveness of the non-Mexican-American model videotape treatment.

3. To compare the mean effectiveness of the script and audiotape active-control procedures.

EXPERIMENTAL DESIGN

Statement of Hypotheses

The following research hypotheses were tested:

1. Subjects who receive either of the two videotape presentations will engage in more educational information-seeking behaviors than will similar subjects assigned to the non-videotape conditions.

2. Subjects who receive either of the two videotape presentations will make more favorable opinion changes toward vocational education than will similar subjects assigned to the non-videotape conditions.

3. Subjects who receive either of the two videotape presentations will make greater changes in interest inventory scores in certain vocations and related activities than will similar subjects assigned to the non-videotape conditions.

4. Mexican-American subjects who receive the Mexican-American model videotape will engage in more educational information-seeking behaviors than will Mexican-American subjects assigned to the non-Mexican-American model videotape.

5. Mexican-American subjects who receive the Mexican-American model videotape will make more favorable opinion changes toward vocational education than will Mexican-American subjects assigned to the non-Mexican-American model videotape.

6. Mexican-American subjects who receive the Mexican-American model videotape will make greater changes in interest inventory scores in certain vocations and related activities than will Mexican-American subjects assigned to the non-Mexican-American model videotape.

7. Non-Mexican-American subjects who receive the non-Mexican-American model videotape will engage in more educational information-seeking behaviors than will non-Mexican-American subjects assigned to the Mexican-American model videotape.

8. Non-Mexican-American subjects who receive the non-Mexican-American model videotape will make more favorable opinion changes toward vocational education than will non-Mexican-American subjects assigned to the Mexican-American model videotape.

9. Non-Mexican-American subjects who receive the non-Mexican-American model videotape will make greater changes in interest inventory scores in certain vocations and related activities than will non-Mexican-American subjects assigned to the Mexican-American model videotape.

10. Subjects who receive the script of the videotapes will engage in more educational information-seeking behaviors than will similar students assigned to the audiotape control condition.

11. Subjects who receive the script of the videotapes will make more favorable opinion changes toward vocational education than will similar subjects assigned to the audiotape control condition.

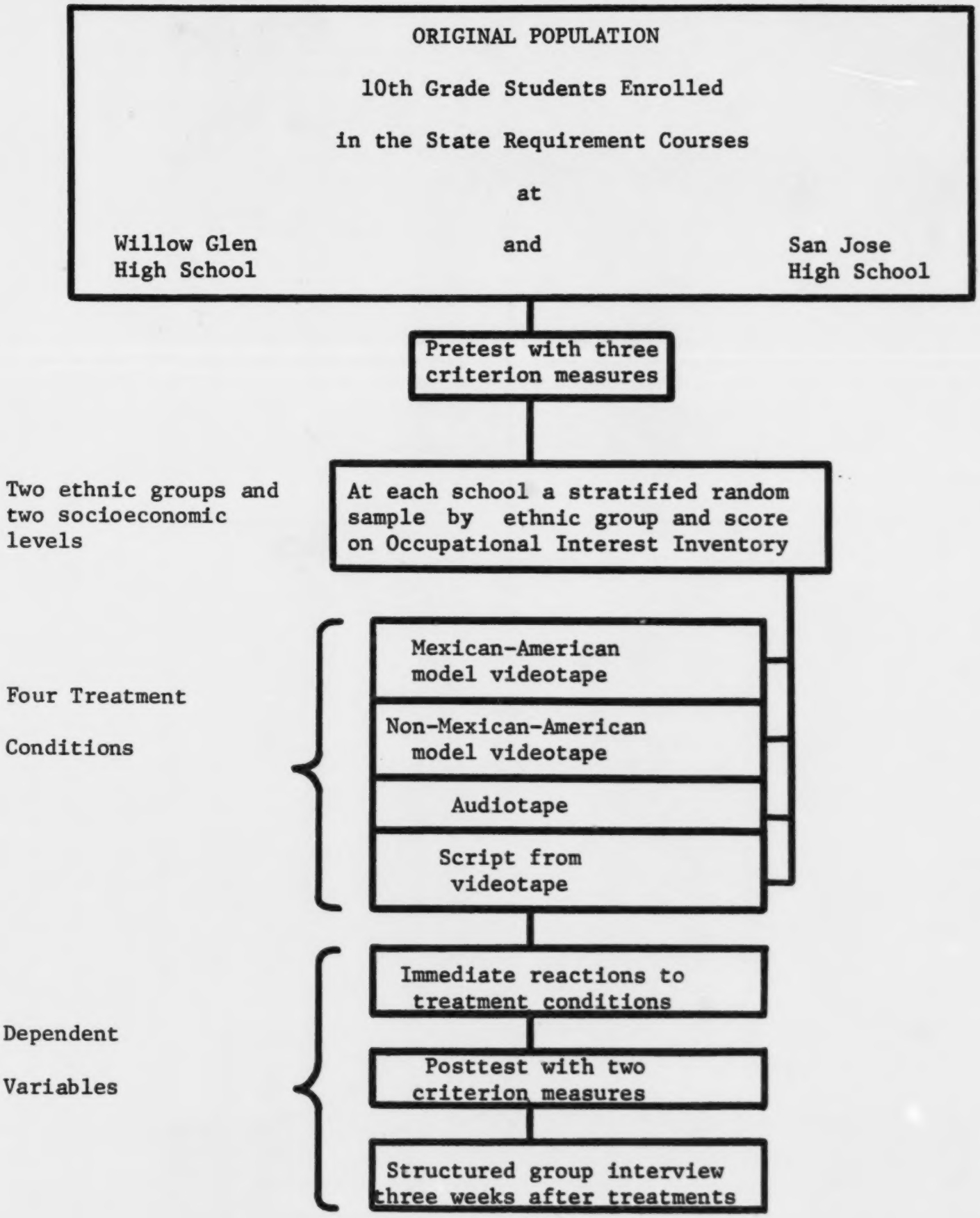
12. Subjects who receive the script of the videotapes will make greater changes on the interest inventory scores in certain vocations and related activities than will similar subjects assigned to the audiotape control condition.

The "pretest-posttest control group" design described by Campbell and Stanley (1963) was used with certain adaptations. In this study rather than use the no-treatment control we compared the experimental procedures with active-control conditions (an audiotape and a script). We wanted to compare the experimental procedures with two strategies that might be used in a counseling setting. The use of these strategies met the requirement for a control group and provided the additional treatment comparisons. Figure 1 depicts the study's overall organization which resulted in a 4 x 2 x 2 factorial design (four treatment conditions, two ethnic group membership, and two socioeconomic levels).

Table 1 shows the design of the experiment with the final cell sizes placed in parentheses beside the planned cell frequencies. The cell sizes were unequal due to the small proportion of Mexican-American students at the middle socioeconomic level school. At this school, Mexican-American students make up

FIGURE 1. OVERALL DESIGN FOR

CONDUCTING STUDY A


ORIGINAL POPULATION
10th Grade Students Enrolled
in the State Requirement Courses
at
Willow Glen High School
and
San Jose High School
Pretest with three criterion measures
Two ethnic groups and two socioeconomic levels
At each school a stratified random sample by ethnic group and score on Occupational Interest Inventory
Four Treatment Conditions
Mexican-American model videotape
Non-Mexican-American model videotape
Audiotape
Script from videotape
Dependent Variables
Immediate reactions to treatment conditions
Posttest with two criterion measures
Structured group interview three weeks after treatments

slightly less than one-fifth of the student body. Consequently, a larger number of students at this school was used in the study in an attempt to obtain the minimum number of Mexican-American subjects for each cell. Further, due to an unexpected number of absentees on the first day of the study and a loss of subjects on each day of data-gathering, the inequality of cell sizes became greater.

Subjects

In Table 2 are shown the five criteria for measuring the socioeconomic level for each census track in a high school's attendance district. These data for each track are ranked from among the 127 census tracks in Santa Clara County. A track that has a composite rank of 127 would have the lowest socioeconomic level in the county; an average rank order of one would be the highest socio-economic census track in the county.

The experiment was conducted in two high schools from the San Jose Unified School District, San Jose, California. The first high school, Willow Glen High School, has an attendance district which includes census tracks A-18, A-23, A-24, A-25, and A-30. Table 2 demonstrates that three of the five census tracks are ranked on socioeconomic indices in the upper 50 percent of the county and only one track is in the lowest 20 percent of the county. Those census tracks for which the average rank order on the indices indicated a higher socioeconomic level were assigned to the middle socioeconomic level. Thus, the student body at this high school can be characterized as primarily middle class. Approximately 17 percent of the student body is Mexican-American.

The second school, San Jose High School, enrolls students from the following census tracks: A-1, A-9, A-10, A-11, A-12, A-13, A-14, A-17, and A-36. Table 2 indicates that seven of these nine tracks are ranked among the lowest 20 percent

TABLE 1

PROPOSED AND ACTUAL NUMBER OF SUBJECTS IN EACH CELL OF THE EXPERIMENTAL DESIGN--STUDY A

Independent Variables		Treatment Procedures: Mexican American Video	Non-Mexican-American Video	Audio Tape	Script	Total
Middle Socio-economic Level	M A	10 (5)	10 (8)	10 (6)	10 (5)	40 (24)
	N M A	10 (40)	10 (36)	10 (38)	10 (32)	40 (146)
Low Socio-economic Level	M A	10 (15)	10 (7)	10 (11)	10 (11)	40 (44)
	N M A	10 (7)	10 (9)	10 (9)	10 (8)	40 (33)
Total		40 (67)	10 (60)	40 (64)	40 (56)	160 (247)

NOTE: The figures in parentheses represent the highest level of student participation in this study. Due to irregular attendance and improper filling out of some cards, the number of students considered for individual analyses varied.

TABLE 2

RANK BY CENSUS TRACK OF INDICES FOR THE SOCIOECONOMIC LEVEL OF TWO PARTICIPATING HIGH SCHOOLS[1]

Census Track Number	% of Pop. w/Income Less Than $4000 1960	% of Pop. With Less 8th. Gr. Educ. 1960	1964 Hospital Admission	Juven. Delin. Cases 1965	1964 Welfare Case Load	Rank Order Average
San Jose High						
A-1	86	116	106	102	104	102.8
A-9	126	71	103	27	112	87.8
A-10	121	97	126	96	125	113
A-11	117	124	118	108	121	117.6
A-12	119	106	122	114	124	117
A-13	108	61	68	15	78	66
A-14	115	109	119	119	122	116.8
A-17	118	123	124	107	126	119.6
A-36	110	122	114	81	118	109
Willow Glen High						
A-18	106	120	125	120	123	118.8
A-23	53	46	64	58	69	58
A-24	75	77	75	82	89	79.6
A-25	62	50	58	68	74	62.4
A-30	16	26	49	73	54	43.6

[1]Bay, D. Indices of Poverty by Rank Order. Santa Clara County Projects of Advances in Creativity in Education (SPACE), 1966.

on the indices. Those census tracks for which the average rank order on the indices appeared among the poorest 20 percent were assigned to the low or lower middle socioeconomic levels. However, this school has received federal grants providing curricular and equipment innovations. For this reason, some of the effects caused by the socioeconomic environment surrounding the school were confounded by favored school conditions. Mexican-American students constitute 56% of this school's population while Oriental and other non-Mexican-American students make up 43 percent of the student body. Black students make up one percent of its population.

To complete the experimental design 40 Mexican-American and 40 non-Mexican-American tenth grade boys were needed from each school. The population for the study was to be selected from students enrolled in a State Required course. The school staffs indicated that greater flexibility might be attained by using only those courses taught by teaching teams. At San Jose High no "X" track (above average) students were enrolled in the classes made available to the study. Accordingly, those "X" track boys who were enrolled in a State Required course at Willow Glen High were not included in this investigation. The names of all students available for the study were verified by school personnel on the basis of sex and ethnic group membership.

Randomization Procedures

A randomized block design, with blocks based on a pretest measure of the subjects' interest in the four occupational programs presented in the treatments, was planned for use in this study. The order for random assignment is found in Appendix A. During the pretest session each student completed an Occupational Interest Inventory described later in this chapter. The Mexican-American and non-Mexican-American subjects' answers were separately ranked by school. Taking

the four highest scores on this instrument for an ethnic group, the investigator randomly assigned these four subject to the four treatment procedures. Then the next four highest scores were used to assign randomly the next subjects to the treatment procedures, until all the subjects for an ethnic group had been assigned to the treatments.

According to Lindquist (1953) the block randomization design can be used to increase the power and precision of the experiment. However, the control variable in this study, scores on the Occupational Interest Inventory, did not correlate significantly with any of the dependent measures. In such a situation the randomized block assignment is not more efficient than a 4 x 2 x 2 design (Edwards, 1968). Therefore, the 4 x 2 x 2 factorial design was finally used in this study.

Experimental Treatments

Two versions of a videotape entitled "Getting Ready for Careers" were produced for this project. The videotape script depicting student-models enrolled in vocational programs and talking with their teacher in the laboratory or shop setting was prepared for use in the four treatment conditions. The dialogue presented both factual information about the four vocational programs and procedural information relevant to seeking information about these programs.

Mexican-American model videotape treatment. The development of the basic script began with a review of the vocational curricula which were to be offered by the San Jose Regional Vocational Center with preference given to new programs, because the guidance personnel wanted to stimulate interest in the Center's expanded services. Four vocational programs were selected on the basis of the following criteria:

1. Graduates of the occupational program must be in demand for the immediate future.

2. The occupation must not be "glamorous" or one to which students could aspire on the basis of superficial information.
3. The training program must not be too desirable among the possible vocational center students.
4. The occupation must involve some work which is visible to an observer.

The following four vocational curricula were selected: construction technology, health services, sheet metal, and coating technology.

During the second stage of script development, a specific learning situation was selected from among those learning situations which are usually presented in each of these vocational curricula. Selection criteria for each of these specific situations were that the learning situation must:

1. extend over several class periods.
2. be fairly characteristic of the vocational program.
3. require some procedural and informational knowledge.
4. involve a teacher-student dialogue.
5. be of interest to the target population.

Finally, after meeting with vocational education teachers and advisors related to each of the selected vocational curricula, four learning situations were selected:

1. Fabrication of cabinets for construction technology;
2. Preparation of a sterile tray for health services;
3. Production of a rounded ventilator for sheet metal; and
4. Application of viscosity and adhesion tests for coating technology.

The next stage of materials development required the writing of a script for each vocational learning situation so that student models:

1. processed vocational and educational information by using a six-step decision-making paradigm.

2. completed an occupationally relevant task in a vocational education program.
3. received social approval from peers or an instructor for the completion of a step.

Each learning situation was presented in four vignettes. The time between vignettes, as indicated by the dialogue and student learning task progress, was at least one class period.

The final stage of materials development involved coordinating the script with the printed questions. This was accomplished by having a narrator direct the subjects before each vignettes, "Now turn to Part (NUMBER) of (OCCUPATIONAL PROGRAM'S NAME) and answer the three questions. Answer them as rapidly as you can." The subjects read the questions in "Getting Ready for Careers--Student Booklet" (see Appendix E). These questions focused on information or procedures which were presented in the vignette which were to follow. For example, in construction technology the following three questions preceded a vignette:

1. When a person is using a circular saw, the best clothes to wear are long-sleeved shirts. Yes _____ No _____
2. When planning to choose a training program, you should consider only your abilities and interests. Yes _____ No _____
3. When a student asks for a job, employers look only at the student's grades. Yes _____ No _____

For all students the purpose of the question and answer periods between the vignettes was (1) to promote the subjects' identification with the student models; and (2) to stimulate the subjects to engage in educational information-seeking both during and after the vignette. At the end of the vignette the narrator said again, "Now turn to Part..." In this way subjects answered 16 sets of questions and received a like number of vignettes on four different vocational education

programs. A final scene was a student and counselor interview in which the six steps for applying the decision-making process to educational and vocational education information-seeking were reviewed.

Mexican-American and non-Mexican-American students enrolled in a particular vocational program were selected by their teacher to be in the videotape. The basis for selection used in this study was that the students "look like" tenth graders. The teacher's judgment determined whether or not the Mexican-American students could be identified as such. In the videotape the vocational education teacher for the particular program was also the "teacher." All vocational education teachers in the vignette were non-Mexican-American.

Non-Mexican-American model videotape treatment. The second videotape produced for this investigation used non-Mexican-American student actors as social models. An attempt was made to control any qualitative differences between the tapes by recording the Mexican-American models first for one vocational program and the non-Mexican-American models first for a second program. Again the student models were encouraged to be as natural as possible.

Audiotape treatment. This treatment consisted of the combined soundtracks of the two videotapes so as to balance the quantity of dialogue voiced by each ethnic group. The order of presentation was as follows: Mexican-American female in the introduction; Mexican-American male in construction technology; non-Mexican-American male and females in health services; Mexican-American male in sheet metal; non-Mexican-American male and female in coating technology; and, non-Mexican-American female in the final scene. While listening to the audiotape, subjects in this treatment used the same student booklet used by the other treatment groups.

Videotape script treatment. A second active-control procedure used the written script developed for the videotapes (see Appendix F for "Getting Ready

for Careers--Script"). Subjects in this condition used the student response booklet and the printed script. The average time for this procedure was 45 minutes.

Criterion Measures

The criterion measures used in this study were developed and selected to measure the subjects':

1. interest in selected vocational curricula.
2. interest in occupations and activities related to the occupations.
3. opinions toward vocational education, and
4. education information-seeking behaviors.

(1) Vocational Curricula Interest. In order to have the subjects indicate their interest in a manner related to the content area of this study, the Occupational Interest Inventory (see Appendix B), was specifically constructed. The instrument was a list of the occupational programs taught at the San Jose Regional Vocational Center; four of these programs were presented in the treatments. The inventory measured the subjects' comparative interest in all vocational education opportunities available at the Center. The subjects were asked to rank the 18 programs in order of their current interest. The score on this instrument was the total value of the rank orders assigned to the four occupational programs presented in the treatments. This score was the control variable used in the block randomization described earlier in this chapter.

(2) Occupational Interest. In this study a subject was said to have demonstrated an interest in a particular occupation or activity related to that occupation if he stated in a questionnaire that he: 1) had a preference for it, 2) would find the occupation more interesting than another, and/or 3) would like that kind of activity.

The Project TALENT Interest Inventory, developed for Project TALENT by the team of Flanagan, Dailey, Shaycoft, Gorham, Orr and Goldbert (1962), was selected as this study's test of vocational interests because it asked the student to indicate his degree of interest in each of 122 occupations and 83 activities (see Appendix D for Inventory Instructions, Response Categories, and Items). The instructions emphasized that the subject should respond to each item as though he had had the training and experience necessary for the occupation or activity and should disregard salary or social prestige. The subjects recorded their responses to each occupation by indicating on a five-point scale the degree to which they would like or dislike it. Only those 14 scales related to the vocational education programs presented in the treatments were used in compiling the student's score for this criterion measure. The total score obtained on the 14 items was used in the analyses.

(3) Opinions Toward Vocational Education. The body of literature referred to in the preceding chapter suggests that in many communities vocational education has a negative stereotype. The extent to which these opinions can be modified as a result of the treatment conditions became a primary interest in this investigation.

The Vocational Education Attitude Questionnaire was used as the criterion measure of the subjects' opinions toward vocational education (see Appendix C). This empirically developed instrument was based on 20 statements on some of the common stereotypes which the investigator felt students held about vocational education. This pool of items was augmented by statements suggested by local vocational counselors and educators in the district. These statements were phrased and coded so that to agree with some would represent a favorable opinion while agreement with others would be scored negatively. In this way, the effect of response set was counterbalanced among these statements.

It was anticipated that some of the subjects would not have sufficient knowledge to make definite judgments, but the effect of this was expected to be randomized across treatment conditions. Each item was coded so that a high score indicated support of vocational education programs (see Appendix C for coding). Each subject's total coded score on the 20 statements was used in the data analysis procedures.

(4) Educational Information-Seeking Behaviors. The influence of the treatment presentations on the subjects' subsequent performance was of special interest in this study. Those overt, measurable, self-initiated behaviors relevant to the gathering and processing of information for subsequent vocational and educational planning and decision-making were defined as educational information-seeking responses. An inventory was designed to collect the frequency of such behaviors.

The Educational Information-Seeking Inventory was used to record the number of educational information-seeking behaviors the subjects reported that they had made during the three weeks subsequent to the treatment presentations (see Appendix I for Directions, Items, and Supplemental Data Forms for the Inventory).

The instruments asked specific questions from seven broad categories:

1. Had they talked with any people about occupations, vocational education, or any other educational opportunities?
2. Had they requested any printed information, read any booklets or watched TV or films related to vocational education or their occupational plans?
3. Had they made or planned on any on-the-job visits?
4. Had they visited or planned to visit the Vocational Center?
5. Had they looked into or planned to look into summer work related to their occupational choices?

6. Had they made definite plans to take or had they taken any interest, ability, or achievement tests?
7. Had they changed their educational plans so that they were now signed up for the Vocational Center?

The research assistants administering the inventory emphasized that the student should consult the calendar on the front page of the inventory and only report those activities in which they had engaged during the last three weeks. This procedure was followed as a way of narrowing down the scope of what was supposed to be included.

Included in the inventory were supplemental questions designed to assess the students' recall of the particular treatment media--videotape, audiotape or script--and to record the indication of the subjects' posttreatment and post high school plans.

The score of each subject on this inventory represented his frequency of educational information-seeking responses. Supportive evidence of such behaviors was obtained by having the subjects complete a supplemental form (see Appendix I) for most of the information-seeking responses they reported.

In a number of earlier studies (Krumboltz & Schroeder, 1965; Krumboltz & Thoresen, 1964) this type of criterion measure was consistently found to be a sensitive instrument. Krumboltz and Schroeder (1965) checked on the accuracy of their subjects' reports of "information-seeking behavior" by randomly selecting one-sixth of their subjects and attempting to verify all reported activities. Twenty-five out of 34 responses were confirmed, nine were unconfirmable, and none were proven false. Krumboltz and Thoresen (1964) followed up on 85 responses reported by 18 subjects and confirmed 79 of them, while the other six were unconfirmable. Krumboltz, Thoresen, and Hosford (1966) selected a random sample of seven percent of their subjects' reported information-seeking behaviors

and validated 38 out of 63 responses; none was invalidated. Thoresen and Krumboltz (1968) were able to verify 44 out of 51 reported information-seeking behaviors.

However, these studies used individual interview rather than group administration of the posttreatment criterion measure. Krumboltz and Sheppard (1966) used a small group administration--eight to 10 subjects--and replicated previous studies' findings for the posttreatment structured interview criterion measure. Jones (1966) used a larger group (i.e., 10-15 subjects) procedure to gather evidence of "vocational exploratory behaviors." Hamilton (1969) employed the small group procedure--eight subjects and one research team member and verified a 12 percent random sample.

In this investigation a classroom size group procedure was employed to gather criteria data on the subject's educational information-seeking. The group procedure was used in order to standardize administration of the inventories and to complete it within one day at each school. Usually two research assistants were assigned to a classroom; the investigator was either present throughout the administration or rotated among the classrooms, if several were in use.

A random five percent of the subjects' inventories (i.e., 14 Ss) were selected for objective confirmation after the educational information-seeking inventories were completed. The verification procedures included either face-to-face or telephone interviews of parents, teachers, counselors, or peers, with whom the subject reported talking, and checks on other activities carried out by the subjects. Of the 46 educational information-seeking behaviors reported by the 14 subjects, 24 were verified and 17 were not verified. Five of the nine contacts reported by one subject were not accompanied by a supplemental form and could not be verified. In those cases in which a response was not verified, it

was because a counselor, teacher, peer, or parent was not absolutely certain that the reported conversation took place on the day specified and/or on the particular subject reported by the student. Overall these verification results are comparable with those reported earlier (i.e., Krumboltz, Thoresen & Hosford, 1966).

EXPERIMENTAL PROCEDURES

The four phases of the experiment were completed as follows:

1. April 1, 1968 - first testing session at both high schools. Pretests administered included: (a) Occupational Interest Inventory, (b) Vocational Educational Education Attitude Questionnaire, (c) Project TALENT Interest Inventory.
2. April 2 and 3, 1968 - administered treatment conditions at San Jose High and Willow Glen High, respectively; collected Student Reaction Sheet.
3. April 4 and 5, 1968 - conducted second testing session at San Jose High and Willow Glen High, respectively. Posttests were: (a) Vocational Education Attitude Questionnaire and (b) Project TALENT Interest Inventory.
4. April 23 and 24, 1968 - administered the three-week followup at San Jose High and Willow Glen High, on the respective dates. The Educational Information-Seeking Inventory was used.

Testing Procedures

In all three sessions, members of the research team (doctoral and masters' degree candidates in counseling and guidance) did not know to what treatment conditions the subjects had been assigned. Also, administrators in the first

two testing sessions used standardized instructions (see Appendix J) which specified procedures which were to be followed and they were asked to read the statements to the subjects just as they were printed. At no time during the study were the subjects told that this was an experiment. They were informed that this "Study of Vocational Tests and Materials" was attempting to "study old and new ideas on tests and materials and to observe the students who will use them" (see Appendix J). Both the pretest and posttest sessions lasted for a full 50-minute class period; however, less time was necessary for the posttest sessions, since the subjects were familiar with the instruments. The subjects were asked to complete the forms at their own pace and in a specified order, i.e., Occupational Interest Inventory, Vocational Education Attitude Questionnaire, and Project TALENT Interest Inventory. Some of the subjects were called out of class or for some other reasons were unable to complete the forms.

A research team closely supervised by the investigator administered the Educational Information-Seeking Inventory. The investigator moved from classroom to classroom and tried to monitor the team-subject interactions in order to approximate an individual interview. One of the research team members read the "Directions for Students" to each group of subjects (see Appendix K). The subjects were encouraged to respond at their own speed. Some of the subjects were unable to complete both the inventory and the supplemental data sheets. It was decided that the subjects who might not complete both the inventory and the supplemental data sheets should complete at least the inventory. The Educational Information-Seeking Inventory was administered to groups of 25 to 35 subjects.

Treatment Administration Procedures

Instructions for treatment administration procedures were given to each member of the research team (see Appendix J). Reading from the sheet of

instructions, one member of the team for each treatment condition informed the subjects that "we are interested in your reactions to some educational and vocational materials" and then the team presented its particular materials for the remainder of the class period. At San Jose High School three class periods were used, with the four treatment procedures presented in four separate rooms. At Willow Glen High School five class periods were used to administer the treatment procedures. The administrations at these schools were completed on consecutive days.

Treatment procedures were standardized for all four conditions. At the beginning of the class period, a research team member handed each subject a booklet, "Getting Ready for Careers--Student Booklet" (see Appendix E), and a "Student Reaction Sheet" (see Appendix G). The group was told the purpose of this session was to "assess students' reactions to vocational and educational materials." On the research assistant's signal the videotape recorder was started.

Before each new vignette the "Counselor Office" door appeared on the monitor and the narrator said, "Now turn to Part (Number)..." The videotape recorder operator then immediately turned off the machine. The inter-vignette time was about 30 seconds. The total running time for the presentation, including response time, was approximately 50 minutes (see Appendix H for the original schedule).

In order to give the subjects a form on which to register their "reactions" to the different treatment procedures, each subject was given a three-question "Student Reaction Sheet" (see Appendix G) immediately following the presentation of the materials. The reaction sheet was also used as an attendance record. Subjects' reactions were analyzed even though no hypotheses had been stated concerning the results.

Statistical Procedures

The only problem in scoring was the extent to which the subjects followed the instructions for completing the instruments. For those subjects who failed to follow their instructions either because they partially completed the criterion measures or incorrectly marked their responses, their particular results were not considered in the statistical procedures. The following specific scoring procedures were used:

1. Occupational Interest Inventory. The rank scores assigned to construction technology, health services, sheet metal and plastics, and coating technology were summed and this value became a measure of interest in the four occupational curricula which were presented in the treatments. This process was used for the pretest results.

2. Project TALENT Interest Inventory. Each subject's responses to each of the 14 items which were closely related to the four occupational curricula included in the treatment presentations were coded. A five-point scale was used (e.g., the response "A" represented a high degree of interest and was scored five; "E" was assigned a score of one) and totaled for an inventory score (see Appendix D for identification of the 14 items). This process was repeated for the pretest and posttest data.

3. Vocational Education Attitude Questionnaire. Using the coded scores presented in Appendix C (i.e., four points for the most favorable opinion toward vocational education, one for the least favorable, etc.) each subject's score was calculated by totalling the points he received on the individual questionnaire items. The summation was repeated for both pretest and posttest results.

4. Educational Information-Seeking Inventory. The incidence of the student's reported information-seeking behaviors resulted in a total score for each subject. Only posttest scores were used.

5. Student Reaction Sheet. Subject responses were coded for each of three questions on these topics: (a) Reported interest in the materials; (b) Evaluation of the materials; and (c) Anticipated exploration subsequent to the materials. Five points were given for an "A" response, while one point was assigned for an "E" response. Each score was recorded separately.

Using appropriate pretest scores as the covariates, a three-way analysis of covariance with unequal cell size and one or two covariates was employed to test all hypotheses (Scheffe, 1961). The choice of the covariance model was based on the need for more assumptions than those stated for analysis of variance (Guilford, 1956). Winer (1962) makes the additional assumption that the regression and treatment effects are additive and that regressions are homogeneous. However, Elashoff (1968, p. 14) states that if the correlation between covariates and dependent variables "is smaller than .30 in absolute value, the increase in precision of covariance analysis over analysis of variance will be negligible." The determination of the appropriate covariates and the tests for homogeneity of regression was executed as a two-step process.

First, the selection of covariates was completed in the following way. An intercorrelation matrix was obtained by using the BMD, 02D Program (Dixon, 1967, p. 49ff). Table 14 (in Appendix L) presents the intercorrelation matrix. Due to the large sample size used in the intercorrelation matrix (N = 139), the value of r significant at the .05 significance level was .16. Thus, those pretest scores significant at the five percent level or below were used as covariates. The second question on the Student Reaction Sheet was the only dependent variable without a pretest correlate which reached the five percent level; therefore, analysis of variance was used on this measure.

Second, using the significantly correlated pretest scores as covariates (Table 14, in Appendix L), the tests for homogeneity of regression were performed. A program written by Dr. Robert Proctor, Stanford Research and Development Center on Teaching, was used in six analyses. The results of these analyses showed that parallelism of regression occurred in all four treatment procedures.

In both covariance and variance analyses, the data in the 4 x 2 x 2 factorial design with unequal cell sizes were included as an overall test of treatment effects. For the tests of the 12 major hypotheses and the supplemental analyses a 2 x 2 x 2 design was chosen. The facilities of the Stanford University Computation Center were used for all analyses with the BMD 05V Program (Dixon, 1967, p. 543ff) adapted to run on the Center's IBM 360/75 computer.

The BMD 05V Program assumes that the input data have been drawn from a fixed-effects research model and therefore the term consistently used as the appropriate mean square for all tests of significance was the within-cell mean square. As to the conclusions which can be drawn from the experimental model, Edwards (1968) has noted that the treatments investigated must be randomly selected from the population of interest before generalizations or inferences can be made about the treatment levels not included in the experiment. In this investigation, no claim has been made that the four treatment procedures are random selections from specific treatment populations; therefore fixed selection occurred on this independent variable. No claim could be made that random selection took place on the ethnic group dimensions, so this has also been referred to as a fixed variable. Nor were the two schools randomly selected. An attempt was made to sample from two school populations, schools in low socioeconomic and schools in middle socioeconomic levels, but in both cases the investigator knew in advance something about the schools' socioeconomic characteristics. Thus, the model limits the generalizations about treatments and

populations that can be made from the results obtained. Replication of this study's findings in randomly selected schools using randomly selected treatments and ethnic groups would be necessary before any attempt could be made at generalizations across all schools, treatments and ethnic groups.

CHAPTER III

RESULTS AND DISCUSSION--STUDY A

In order to simplify the presentation of the results from the 210 F-tests performed on all possible mean squares for the five comparisons of the six dependent variables, only those variance components which attained significance at the .05 level and their respective within cell (error) components are presented in this chapter. Complete tables are found in Appendix N. In the following sections of this chapter the results are summarized under the major comparisons for each of the six dependent variables.

The six specific hypotheses having to do with the effects of videotaped ethnic social models on students of the same or of different ethnic groups held the most interest in this experiment. The hypothesized interaction of ethnic group and treatment was particularly important.

Experimental versus Active-Control Procedures

In order to compare the relative effectiveness of the two experimental videotape ethnic social modeling procedures and the materials used as the active-control conditions, the results obtained by subjects in the two experimental conditions were averaged and compared with the averaged results for the active-control groups. All scores were still divided into two levels on the basis of both the ethnic group and socioeconomic factors. Appendix N-2 provides data from the analyses of covariance and variance based on the 2 x 2 x 2 factorial design computed for each of the three major dependent variables. Table 3 provides the cell means and standard deviations obtained from these analyses. To clarify these findings each hypothesis will be considered individually.

HYPOTHESIS 1: Subjects given the experimental videotapes will report more information-seeking behaviors than will similar subjects assigned to the active-control procedures.

CONCLUSION: The prediction was not supported.

On the basis of the covariance analysis performed on data from the Educational Information-Seeking Inventory, the results failed to reject the null hypothesis. The evidence failed to confirm that the two experimental ethnic social model videotapes exerted a significantly greater effect on posttreatment educational information-seeking than did the two active-control procedures. Inspection of the data in Table 3 shows the non-Mexican-American subjects did engage in more information-seeking behaviors but the differences failed to reach conventional significance levels.

HYPOTHESIS 2: Subjects assigned to the experimental videotapes will score higher on the vocational opinion measure than will similar subjects given the active-control procedures.

CONCLUSION: The prediction was not supported.

Appendix N-2 presents data from the analysis of covariance on scores from the Vocational Education Attitude Questionnaire. On the basis of this analysis the results failed to reject the null hypothesis. The data failed to confirm that the subjects given the experimental videotape modeling treatments scored significantly higher than did the subjects presented the active-control procedures. Table 3 shows the low socioeconomic level students scored slightly higher but again these differences failed to reach conventional significance levels.

TABLE 3

CELL MEANS AND STANDARD DEVIATIONS FOR TWO LEVELS OF TREATMENT (EXPERIMENTAL VIDEOTAPES VS. ACTIVE CONTROL PROCEDURES) FROM TWO ETHNIC GROUP LEVELS AND TWO SOCIOECONOMIC LEVELS

		EXPERIMENTAL VIDEOTAPES				ACTIVE CONTROL PROCEDURES			
		MIDDLE		LOW		MIDDLE		LOW	
		MA	NMA	MA	NMA	MA	NMA	MA	NMA
1 EISI	$\bar{x}$	5.44	4.73	4.08	7.91	4.56	5.68	3.71	5.73
	σ	6.39	4.58	2.84	11.51	3.88	6.44	3.34	5.75
2 VEAQ	$\bar{x}$	55.91	54.37	56.67	57.18	52.75	54.53	55.47	56.92
	σ	8.23	7.25	6.04	7.26	9.98	7.34	6.42	4.83
3 PTII	$\bar{x}$	39.00	37.30	42.42	40.00	39.75	39.00	43.40	38.15
	σ	8.47	10.11	8.46	10.99	10.99	8.48	8.48	7.89

Note 1: The Educational Information-Seeking Inventory (EISI) was administered three weeks after the treatment presentation to 177Ss.

Note 2: The Vocational Education Attitude Questionnaire (VEAQ) and the Project TALENT Interest Inventory (PTII) were administered on a pre-test and post-test basis to a maximum of 184Ss.

Note 3: Treatment means listed for these variables are post-test means adjusted for initial score differences. Ethnic group and socio-economic level means are observed post-test means. Pre-test cell means are presented in Appendix M-2.

Note 4: The two socioeconomic levels were: middle and low. Census track data were used to define these two levels.

HYPOTHESIS 3: Subjects receiving the experimental videotapes will score higher on the vocational interest measure than will similar subjects given the two active-control procedures.

CONCLUSION: The prediction was not supported.

The results from the analysis of covariance for the vocational interest measure are presented in Appendix N-2. On the basis of this analysis the results failed to reject the null hypothesis. The data in this analysis showed the experimental and active-control procedures did not exert a significantly different effect on the subjects' vocational interest.

From the results obtained in the analyses of the major comparisons between the experimental and active-control procedures the conclusion that can be reached is that the experimental ethnic social modeling procedures are no more effective than the audiotape and the script procedures. Such a finding might be attributed to a variety of material and criterion problems: (1) the combination of videotapes and printed booklets might have led to a competition for the subjects' attention; (2) the quality of the student-models' acting might have denigrated the message of the videotapes, especially in comparison with the professionally performed television programs; (3) the use of large groups of subjects for the posttreatment information-seeking behavior inventory might have reduced the overall frequency of reporting these behaviors; and (4) the three-week delay before gathering posttreatment behavioral data might have resulted in some subjects forgetting names, topics, and places relevant to their previous exploratory behaviors, thereby losing some important information-seeking data.

Videotape Treatment Comparisons

In order to compare the relative effectiveness of the Mexican-American model videotape and the non-Mexican-American model videotape, the scores earned by the subjects in each of the two experimental ethnic social modeling

procedures were averaged and compared. All scores were also averaged on the basis of two levels for both ethnic group and socioeconomic variables. Table 4(a) presents the main and interaction F-test results significant at the conventional levels. The other results from the covariance and variance analyses are reported in Appendix N-3. Table 4(b) gives the cell means and standard deviations obtained from these analyses. To facilitate the presentation of these data the pairs of hypotheses for the same criterion measure will be considered jointly.

HYPOTHESIS 4: Mexican-American subjects given the Mexican-American model videotape will report more information-seeking behaviors than will non-Mexican-American subjects assigned to the same ethnic social modeling procedure.

CONCLUSIONS: The prediction was not supported.

HYPOTHESIS 7: Non-Mexican-American subjects given the non-Mexican-American model videotape will report more information-seeking behaviors than will Mexican-American subjects assigned to the same ethnic social modeling procedure.

CONCLUSIONS: The prediction was not supported.

The covariance analyses performed on this criterion measure failed to reject the null hypothesis. The data did not confirm that either the Mexican-American subjects who saw the Mexican-American model videotape or the non-Mexican-American subjects who viewed the non-Mexican-American model videotape reported more information-seeking behaviors than did subjects who viewed the ethnic social model from the group to which they did not belong.

HYPOTHESIS 5: Mexican-American subjects assigned to the Mexican-American videotape will score higher on the vocational education opinion measure than will non-Mexican-American subjects given the same ethnic social modeling procedure.

CONCLUSION: The prediction was not supported.

HYPOTHESIS 8: Non-Mexican-American subjects given the non-Mexican-American model videotape will score higher on the vocational opinion measure than will Mexican-American subjects given the same ethnic social modeling procedure.

CONCLUSION: The prediction was not supported.

A main effect results from the analyses of covariance used to test these hypotheses are presented in Table 4(a). On the basis of these analyses the results failed to reject the null hypothesis for both comparisons. The data failed to confirm that Mexican-American subjects who saw the Mexican-American models or non-Mexican-American subjects who saw the non-Mexican-American models scored higher on the vocational education opinion measure than the subjects who viewed the models from the ethnic group to which they did not belong. However, the treatment main effect showed that the non-Mexican-American social modeling procedure exerted a significant effect on how both non-Mexican-American and Mexican-American subjects scored on the vocational education opinion measure. Inspection of Table 4(b) also indicates large mean differences in the scores on this same criterion measure between the two socio-economic levels of subjects who viewed the non-Mexican-American model videotape. These differences failed to reach the conventional significance levels due to the large error term found of this analysis.

TABLE 4a

SUMMARY OF ANALYSIS OF COVARIANCE FOR VARIANCE COMPONENTS FROM TWO TREATMENT LEVELS (MEXICAN-AMERICAN MODEL VIDEOTAPE VS. NON-MEXICAN-AMERICAN MODEL VIDEOTAPE), TWO ETHNIC GROUPS, AND TWO SOCIOECONOMIC LEVELS

Dependent Variable	Source of Variation	df	MS	F	p <
(1) VEAQ	Treatment	1	197.75	4.41	.05
	Within	83	44.84		
(2) PTII	Ethnic x Treatment	1	114.06	4.87	.05
	Within	79	23.42		

Note: The dependent variables were (1) Vocational Education Attitude Questionnaire, an opinion measure about vocational education, and (2) Project TALENT Interest Inventory, an interest measure for occupations and related activities.

TABLE 4b

CELL MEANS AND STANDARD DEVIATIONS FOR TWO LEVELS OF TREATMENT (MEXICAN AMERICAN ETHNIC SOCIAL MODELING VS. NON-MEXICAN-AMERICAN ETHNIC SOCIAL MODELING) FROM TWO ETHNIC GROUP LEVELS AND TWO SOCIOECONOMIC LEVELS

		MEXICAN AMERICAN MODEL				NON-MEXICAN-AMERICAN MODEL			
		MIDDLE		LOW		MIDDLE		LOW	
		MA	NMA	MA	NMA	MA	NMA	MA	NMA
1 EISI	$\bar{x}$	5.75	3.67	4.44	9.17	5.20	5.93	3.00	6.67
	σ	8.50	4.13	2.96	15.07	5.22	4.84	2.64	7.79
2 VEAQ	$\bar{x}$	55.60	53.45	51.86	54.00	56.17	55.39	60.40	59.00
	σ	8.08	6.55	4.60	8.91	9.11	7.96	2.07	6.14
3 PTII	$\bar{x}$	42.20	38.94	44.00	32.60	36.33	35.36	40.20	45.29
	σ	10.89	9.98	7.62	11.82	5.47	10.10	9.96	7.06

Note: For the comparisons between the two experimental ethnic social modeling procedures the dependent variables were as follows:

1 Educational Information-Seeking Inventory (EISI), a report of the frequency of post-treatment information-seeking, administered to 90Ss.

2 Vocational Educational Attitude Questionnaire (VEAQ), an opinion measure about vocational education, and

3 Project TALENT Interest Inventory (PTII), an interest measure for occupations and related activities, administered to a maximum of 96Ss.

HYPOTHESIS 6: Mexican-American subjects who receive the Mexican-American model videotape will score higher on the vocational interest measure than will non-Mexican-American subjects assigned to the same ethnic social modeling procedure.

CONCLUSION: The prediction was supported.

HYPOTHESIS 9: Non-Mexican-American subjects given the non-Mexican-American model videotape will score higher on the vocational interest measure than will Mexican-American subjects assigned to the same ethnic social modeling procedure.

CONCLUSION: The prediction was supported.

Table 4(a) presents the significant result from the analyses of covariance for this criterion measure. The complete results are available in Appendix N-3. On the basis of these analyses, the null hypothesis was rejected for both HYPOTHESIS 6 and HYPOTHESIS 9. The results showed that Mexican-American subjects who viewed the Mexican-American model videotape scored higher in selected occupations and activities on the Project TALENT Interest Inventory than did non-Mexican-American subjects who saw the same videotape. Also, non-Mexican-American subjects who viewed the non-Mexican-American social modeling procedure scored higher on this criterion instrument than did Mexican-American subjects who received the same treatment.

Analyses of the major comparisons between the Mexican-American model and the non-Mexican-American model videotape suggested that videotape ethnic social modeling procedures are an effective means for changing students' interest in selected occupations and activities. The findings also suggest that the non-Mexican-American social modeling procedure can be used to change

both non-Mexican-American and Mexican-American students' opinions about vocational education.

Control Treatment Comparisons

The third major comparison tested the relative effectiveness of the audiotape and the script produced from the videotapes. In order to perform this comparison the results obtained by subjects using the audiotape were averaged and compared with the averaged results for subjects receiving the script procedure. In this comparison all scores were divided on the basis of the two levels for both the ethnic group and socioeconomic factors. Table 5(a) presents the main F-test results significant at the conventional levels. Appendix N-4 provides all data from the covariance and variance analyses based on the 2 x 2 x 2 factorial design computed for each of the three major dependent variables. Table 5(b) provides cell means and standard deviations obtained for these findings.

HYPOTHESIS 10: Subjects reading the script from the videotape will report more information-seeking behaviors than will similar subjects assigned to the audiotape.

CONCLUSION: The prediction was not supported.

On the basis of the covariance analysis performed on this criterion measure the results failed to reject the null hypothesis. The evidence failed to confirm that the script media exerted a significantly greater effect on posttreatment educational information-seeking behaviors than did the audiotape. Inspection of Table 5(b) shows the subjects who read the script did engage in more information-seeking behaviors but the difference failed to reach conventional significance levels.

HYPOTHESIS 11: Subjects reading the script from the videotape will score higher on the vocational education opinion measure than will similar subjects assigned to the audiotape.

CONCLUSION: The prediction was not supported.

The significant results from the analysis of covariance for this criterion measure are summarized in Table 5(a). The complete results are available in Appendix N-4. On the basis of the analysis the results failed to reject the null hypothesis. The data showed that students who received the script presentation did not score any higher on the vocational education opinion measure than did students who heard the audiotape. A significant main effect for socioeconomic level was found. Among the subjects receiving both active-control procedures, the low socioeconomic level subjects had a more positive opinion toward vocational education than did middle socioeconomic level subjects.

HYPOTHESIS 12: Subjects given the script procedure will score higher on the vocational interest measure than will similar subjects assigned to the audiotape presentation.

CONCLUSION: The prediction was not supported.

The evidence failed to confirm that the script presentation exerted a significantly greater effect on students' interests in selected occupations and activities than did the audiotape procedure. Inspection of Table 5(b) shows that the low socioeconomic level subjects obtained higher scores on this measure but the difference failed to reach conventional significance levels.

From the results obtained in the comparison between the script and audiotape procedures, the conclusion is that the script appeared to be no more effective than the audiotape presentation. Such a finding might be attributed to the possibility that the amount of vocational information and

procedures for information-seeking provided in the treatment materials, might have contributed to an "information-overload" that distracted the subjects; or the emphasis in these presentations might have extended beyond the four skilled trades to a variety of opportunities available to area vocational school students.

Videotape and Audiotape Comparisons

An additional comparison between the two experimental videotapes and the audiotape presentation was performed in order to compare the relative effectiveness of the two presentation media in this study. The results obtained by the subjects in the videotape condition were averaged and compared with the averaged results for the audiotape group. All the scores were divided on the basis of two levels for both the ethnic group and socio-economic factors. Appendix N-5 provides data from the analyses of covariance and variance based on the 2 x 2 x 2 factorial design computed for each of the dependent variables. Table 6 provides the cell means and standard deviations obtained from these analyses.

The results from the analyses used to test the different effects of the videotape social modeling treatments and the audiotape presentation show that on the basis of the three criterion measures neither videotape nor audiotape exerted a significantly greater effect on the subjects.

SUPPLEMENTAL RESULTS

Supplemental data in this study was obtained from the Student Reaction Sheet which was administered at the end of each of the treatment procedures. This instrument yielded three criteria which were analyzed by analysis of variance procedures. The results are summarized in this chapter and are presented in detail in Appendix L.

TABLE 5a

SUMMARY ANALYSIS OF COVARIANCE FOR VARIANCE COMPONENTS FROM TWO TREATMENT LEVELS (AUDIOTAPE VS. SCRIPT), TWO ETHNIC GROUPS, AND TWO SOCIOECONOMIC LEVELS

Dependent Variable	Source of Variation	df	MS	F	p <
(1) VEAQ	Socioeconomic Level	1	159.06	4.26	.05
	Within	76	37.37		

Note: The dependent variable was the Vocational Education Attitude Questionnaire, an opinion measure about vocational education.

TABLE 5b

CELL MEANS AND STANDARD DEVIATIONS FOR TWO LEVELS OF TREATMENT
(AUDIOTAPE VS. SCRIPT FROM VIDEOTAPE)
FROM TWO ETHNIC GROUP LEVELS AND TWO SOCIOECONOMIC LEVELS

		AUDIOTAPE				SCRIPT			
		MIDDLE		LOW		MIDDLE		LOW	
		MA	NMA	MA	NMA	MA	NMA	MA	NMA
1 EISI	$\bar{x}$	2.80	6.19	2.50	4.75	6.75	4.95	5.33	6.29
	σ	1.93	7.80	2.20	4.11	4.86	3.84	4.08	6.75
2 VEAQ	$\bar{x}$	49.50	54.93	55.71	57.00	56.00	54.04	55.37	56.87
	σ	13.40	7.04	6.29	3.37	4.97	7.83	6.97	5.64
3 PTII	$\bar{x}$	38.50	38.69	40.86	39.80	41.00	39.39	45.63	37.13
	σ	13.20	9.46	9.12	8.01	10.17	7.22	7.78	8.18

Note: For the comparisons between the two active control media presentations the dependent variables were as follows:

1 Educational Information-Seeking (EISI) a report of the frequency of post-treatment information-seeking administered to 87Ss.

2 Vocational Educational Attitude Questionnaire (VEAQ) an opinion measure about vocational education, and

3 Project TALENT Interest Inventory (PTII) an interest measure for occupations and related activities, administered to a maximum of 86Ss.

On this supplemental criterion measure 14 F-tests reached the .05 level of significance or below. The results were as follows:

1. In the analyses involving experimental versus active-control procedures, it was found that Mexican-American subjects were more interested in, and more stimulated by, the vocational materials than were the non-Mexican-American subjects.
2. When the videotape treatments were compared, the Mexican-American subjects reported a greater interest in the vocational materials than did their non-Mexican-American counterparts. The treatment differences in this comparison showed that the non-Mexican-American model videotape was more interesting than the Mexican-American modeling procedure for all students. On the reported degree of stimulation to explore for additional materials, the Mexican-American subjects who viewed the Mexican-American model reported a greater degree of stimulation than non-Mexican-American subjects who saw the same videotape; there was almost no difference between subjects who saw the non-Mexican-American model.
3. The Mexican-American subjects' greater interest in the vocational materials was again found during the comparison between active-control media. All subjects reported a greater interest in the printed script than they did in the audiotape. A second order interaction suggested middle socioeconomic level Mexican-American subjects were most interested in the script materials. The dominance of the script over the audiotape was reported in the subjects' higher opinion of, and their greater degree of stimulation by, the script procedure.

TABLE 6

CELL MEANS AND STANDARD DEVIATIONS FOR TWO LEVELS OF TREATMENT
(VIDEOTAPES VS. AUDIOTAPE)
FROM TWO ETHNIC GROUP LEVELS AND TWO SOCIOECONOMIC LEVELS

			VIDEOTAPES				AUDIOTAPE			
			MIDDLE		LOW		MIDDLE		LOW	
			MA	NMA	MA	NMA	MA	NMA	MA	NMA
1	EISI	$\bar{x}$	5.44	4.74	4.08	7.92	2.80	6.19	2.50	4.75
		σ	6.39	4.58	2.84	11.51	1.92	7.80	2.20	4.11
2	VEAQ	$\bar{x}$	55.91	54.37	55.42	54.18	49.50	54.93	55.57	57.00
		σ	8.23	7.25	5.70	7.26	13.40	7.04	6.29	3.37
3	PTII	$\bar{x}$	39.00	37.30	42.42	40.00	38.50	38.69	40.86	39.80
		σ	8.47	10.11	8.46	10.99	13.20	9.47	9.11	8.01

Note: For the comparisons between the two presentations the dependent variables were as follows:

1 Educational Information-Seeking (EISI) a report of the frequency of post-treatment information-seeking administered to 139Ss.

2 Vocational Educational Attitude Questionnaire (VEAQ) an opinion measure about vocational education, and

3 Project TALENT Interest Inventory (PTII) an interest measure for occupations and related activities, administered to a maximum of 142Ss.

4. The results from the videotape versus audiotape comparison show that Mexican-American subjects were more interested in, and more stimulated by, the materials than were the non-Mexican-American subjects and that all subjects were more interested in, and had a better opinion of, the videotape than they had of the audiotape.

Intercorrelation Matrix

The product-moment intercorrelations of the three pretest, three post-test, and the three immediate reaction scores have been included in a nine-by-nine matrix. The relationships are summarized in this chapter and are presented in greater detail in Appendix L.

The summary of the results from the intercorrelation matrix include the following:

1. Test-retest correlations of .45 for the Vocational Education Attitude Questionnaire and of .83 for the Project TALENT Interest Inventory demonstrate the reliability of these two instruments.
2. The low correlation between the Occupational Interest Inventory and the dependent variables obviated the use of this instrument as a control variable. This situation has been commented upon in Chapter II.
3. The data from the Educational Information-Seeking Inventory were more closely related to the subjects' immediate reactions than to data from either of the posttest measures.

SUMMARY

The F-test results significant at the .05 level or less for the covariance and variance analyses presented in this chapter have been summarized in Table 7. Out of the large number of F-test results for the major criterion measures, those results related to the comparison between the Mexican-American social modeling procedures and the non-Mexican-American model videotape were of greatest

interest in this study. On one criterion measure, the Project TALENT Interest Inventory, the hypothesized ethnic group by treatment interaction was found. The Mexican-American subjects who saw the Mexican-American social models scored higher than did the non-Mexican-American subjects who saw the same videotape. Also, non-Mexican-American subjects who viewed the non-Mexican-American models scored higher on this criterion measure than did the Mexican-American subjects who received the same treatment. The hypothesized interation did not occur for the other dependent variables. The ethnic social modeling procedures did not exert a significant effect on the subjects' information-seeking behaviors or on their opinions relevant to vocational education.

In the comparisons between the experimental and active-control procedures, the control treatments, and the videotape and audiotape, no significant treatment effects were found. In the comparison between control procedures, the Mexican-American subjects scored higher on the vocational education opinion measure than did the non-Mexican-American subjects.

The findings based on the supplemental data were that the subjects' immediate reactions to the experimental and active-control procedures suggested a high level of interest in, and stimulation by the vocational materials, particularly among the Mexican-American subjects. These interest and reported levels of stimulation carried over to interest changes, but not to opinion and behavior changes.

Table 7

SUMMARY OF COVARIANCE AND VARIANCE RESULTS FOR SELECTED VARIANCE COMPONENTS FROM SEQUENTIAL ANALYSES CONDUCTED ON DATA COLLECTED FROM FOUR TREATMENT LEVELS, TWO SOCIOECONOMIC LEVELS, AND TWO ETHNIC GROUP LEVELS

Variable	TC_1 vs. TC_2 vs. C_3 vs. C_4	TC_{1+2} vs. C_{3+4}	TC_1 vs. TC_2	C_3 vs. C_4	TC_{1+2} vs. C_3
VEAQ			3	2	
PTII			13		
SRS_1	1^3 3^1	1^3	1^1 3	1_4 3^4 123	1 3
SRS_2	3^1			3^4	3^1
SRS_3	1^2	1^1	13	3^3	1
EISI					

Note: In this table the covariance and variance results significant at the five percent level and below are presented. The criterion measures are: (1) Educational Information-Seeking Inventory (E.I.S.I.); (2) Vocational Education Attitude Questionnaire (V.E.A.Q.); (3) Project TALENT Interest Inventory (P.T.I.I.); and (4) Student Reaction Sheet ($S.R.S._{1,2,3}$). The four treatments are: (1) Mexican-American model videotape (TC_1); (2) Non-Mexican-American model videotape (TC_2); (3) audiotape (C_3); and, (4) script from videotape (C_4). The two ethnic groups were Mexican-American and non-Mexican-American subjects. The two socioeconomic levels were middle and low.

This table uses the following symbols for main and interaction effects: ethnic group (1); socioeconomic level (2); treatment (3); ethnic group by socioeconomic level (12); ethnic group by treatment (13); socioeconomic level by treatment (23); and, ethnic group by socioeconomic level by treatment (123).

The symbols <u>without</u> superscripts show main and interaction effects significant at the .05 level. The other significance levels are as follows: 1=p .025; 2 = p .01; 3 = p .005; and 4 = p .001.

Chapter IV

EXPERIMENTAL DESIGN & PROCEDURES - STUDY B

The purpose of this second study was essentially the same as the first with various modifications. The differential effects of ethnic social models on educational and vocational information-seeking behaviors and attitudes related to vocational education were tested. Socioeconomic level was not considered in Study B and analysis by sex was performed instead. Only one school was selected for use in Study B. This produced fewer complications for the school district in which we were conducting the study, and the participating school represented a fairly uniform socio-economic level. Therefore, differences in socio-economic level were not investigated. Study A was conducted with male subjects only. Vocational guidance is equally important for males and females and we wished to expand the first study by emphasizing vocational opportunities for both sexes. However, no hypotheses were generated as to the main effect of sex or the interaction effect of sex with treatment conditions and ethnic groups. We were simply interested in observing its impact.

The student modeling procedures consisted of filmed presentations on four vocational curricula offered by the same area vocational center investigated in Study A. One film used Mexican-American students as models while the other used non-Mexican-American students. The two presentations were compared with each other and with a written booklet presentation which included the vocational center's publications on the same curricula areas presented in the films. There was also a baseline control condition in which the subjects were simply told that the services of the vocational center were available to them and no further information was given. The booklet treatment may be considered an "active control" as in Study A, and the addition of the baseline control condition provided an

active-inactive control comparison. Furthermore, we were interested in observing the effectiveness of a simple announcement as was used with the baseline control subjects. If such an announcement were found to be as effective as a more elaborate treatment, this would suggest that a great deal of effort had been ineffectively expended in designing the more extensive approach.

Criteria of treatment effectiveness were the same as in Study A with the exception that no interest scores were used. The interest measure which was used in Study A produced scores relevant to all four of the curricula areas presented in the Study A treatments. However, it produced an interest score for only one of the curricula areas presented in the treatments of Study B and was thus omitted as a criterion measure for this second study. The specific objectives of Study B were as follows:

1. To compare the mean effectiveness of the two experimental film treatments with that of the booklet treatment and the baseline control treatment.
2. To compare the mean effectiveness of the Mexican-American social model film treatment with the mean effectiveness of the non-Mexican-American model film treatment.
3. To compare the mean effectiveness of the booklet treatment with that of the baseline control treatment.

EXPERIMENTAL DESIGN

Statement of Hypotheses

The following research hypotheses were tested:

1. Subjects who receive either of the two film presentations will engage in more educational information-seeking behaviors than will similar subjects assigned to the booklet or control treatments.

2. Subjects who receive either of the two film presentations will make more favorable attitude changes toward vocational education than will similar subjects assigned to the booklet or control treatments.

3. Subjects who receive either of the two film presentations will have more favorable reactions to the treatment than will similar subjects assigned to the booklet treatment.

4. Mexican-American subjects who receive the Mexican-American model film treatment will engage in more educational information-seeking behaviors than will Mexican-American subjects assigned to the non-Mexican model film treatment.

5. Mexican-American subjects who receive the Mexican-American model film treatment will make more favorable attitude changes toward vocational education than will Mexican-American subjects assigned to non-Mexican American model film treatment.

6. Mexican-American subjects who receive the Mexican-American model film treatment will have more favorable reactions to the treatment than will Mexican-American subjects assigned to non-Mexican-American model film treatment.

7. Non-Mexican-American subjects who receive the non-Mexican-American model film treatment will engage in more educational information-seeking behaviors than will non-Mexican-American subjects assigned to the Mexican-American film treatment.

8. Non-Mexican-American subjects who receive the non-Mexican-American model film treatment will make more favorable attitude changes toward vocational education than will non-Mexican-American subjects assigned to the Mexican-American film treatment.

9. Non-Mexican-American subjects who receive the non-Mexican-American model film treatment will have more favorable reactions to the film than will non-Mexican-American subjects assigned to the Mexican-American film treatment.

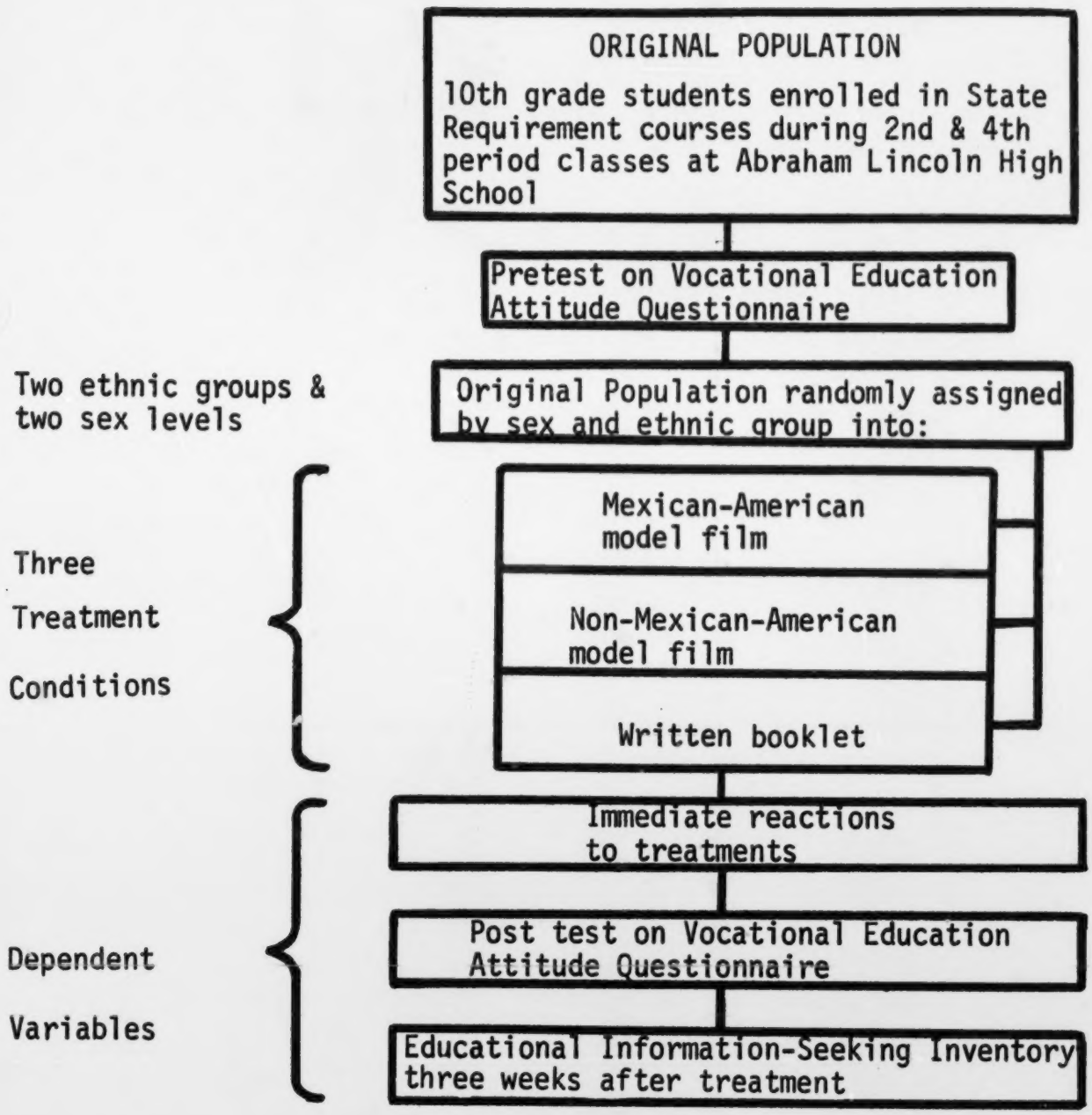
10. Subjects who receive the booklet treatment will engage in more educational information-seeking behaviors than will similar students assigned to the basline control treatment.

11. Subjects who receive the booklet treatment will make more favorable attitude changes toward vocational education than will similar subjects assigned to the baseline control treatment.

The "pretest-posttest control group" design described by Campbell & Stanley (1963) was also used in Study B. However in Study B an inactive control condition was also used. Three treatment conditions were used in addition to the inactive control.

In Study B, the four treatment procedures, two ethnic group memberships and two sexes resulted in a 4 x 2 x 2 factorial design. Figure 2 depicts the overall design for Study B. Table 8 shows the design of the experiment with the final cell sizes placed in parentheses beside the planned cell sizes. Once again, the drop in subjects numbers was due to absences on the day of the treatment administration.

FIGURE 2. OVERALL DESIGN FOR CONDUCTING STUDY B


ORIGINAL POPULATION
10th grade students enrolled in State Requirement courses during 2nd & 4th period classes at Abraham Lincoln High School
Pretest on Vocational Education Attitude Questionnaire
Two ethnic groups & two sex levels
Original Population randomly assigned by sex and ethnic group into:
Three Treatment Conditions
Mexican-American model film
Non-Mexican-American model film
Written booklet
Dependent Variables
Immediate reactions to treatments
Post test on Vocational Education Attitude Questionnaire
Educational Information-Seeking Inventory three weeks after treatment

Baseline Control was provided by students in the 3rd period 10th grade State Requirement Course.

TABLE 8

PROPOSED AND ACTUAL NUMBER OF SUBJECTS IN EACH CELL OF THE EXPERIMENTAL DESIGN - STUDY B

Independent Variables		Treatment Procedures				
		Non-Mexican-American Film Treatment	Mexican-American Film Treatment	Booklet Treatment	Control Treatment	Total
Non-Mexican-American Students	Females	12 (4)	11 (9)	11 (5)	13 (12)	47 (30)
	Males	16 (12)	14 (12)	17 (12)	7 (6)	54 (42)
Mexican-American Students	Females	12 (7)	14 (8)	12 (11)	5 (4)	43 (30)
	Males	13 (6)	12 (8)	10 (7)	11 (9)	45 (30)

Subjects and Randomization Procedure

Study B was conducted at Abraham Lincoln High School of the San Jose Unified School District in San Jose, California where approximately 40% of the student population is of Mexican-American surname. Tenth-grade students in the average ability track of a state required history course were used as the population. Students are randomly distributed among these classes and the subjects for the three treatment conditions were drawn from four of these classes. The subjects were first divided into four groups according to sex and ethnic group membership. These four were: Mexican-American males, Mexican-American females, non-Mexican-American males, and non-Mexican-American females. Ethnic group membership and sex were verified by the teachers from whose classes the subjects were drawn. Subjects in each of the four groups were then randomly assigned to one of the two film or the booklet treatment conditions. It was intended that with this population there would be at least ten subjects in each cell for the two film and the booklet treatment conditions. However because school officials requested that we use all available subjects in the classes, the original cell sizes were not equal. The large number of absentees on the day of the treatment administrations reduced the cell sizes and further increased the inequality of the cells. Students enrolled in a fifth class were used as subjects for the baseline control condition.

Experimental Film Treatments

Two films entitled "RVC (Regional Vocational Center): A Place to Learn Skills for Tomorrow" were developed for the two ethnic modeling treatments. Film was used as the presentation medium in Study B rather than videotape as in Study A. The study was conducted with the consent and cooperation of the San Jose Unified School District which wished to make use of the materials following the completion of the study. For this reason they preferred that

films rather than a videotape be developed since they possessed more equipment for showing films than for showing videotapes. In addition, it was feasible and desirable to produce color films rather than a black and white videotape.

Four of the curricula areas which are taught at the San Jose Regional Vocational Center were presented in each film. The following vocational curricula were selected: Metallurgy, Dry Cleaning, Electro-Mechanical Technology, and Coatings Technology. These four were selected on the basis of the criteria employed in Study A with the addition of another criteria--that all programs presented be co-educational since this study was also considering analyses by sex.

The films consisted of a series of visual images (both still and moving shots) which were designed to capture and generate interest in student exploration of the four vocational training areas under consideration at the Regional Vocational Center, and to give information about possible exploratory activities which students might employ if they want to gather information about educational and vocational opportunities.

The sound track that accompanied the film presented music and sounds from industry. There were no spoken words. Specific information that could not be derived from visual images (such as data on particular job opportunities) and problem-solving suggestions (such as suggestions to see the counselor, look up additional information, etc.) were presented by calligraphic signs which were flashed on the screen and repeated for emphasis. This technique was chosen for the following reasons:

a. its spontaniety and contemporary feeling;

b. the ease of including <u>any</u> relevant visual images;

c. the ease of including <u>any</u> informational images; and

d. the reliance upon visual images rather than on a set script.

One film was introduced by a series of Mexican-American male and female student models and some of the shots showed Mexican-American students discussing vocational opportunities with their counselor. In the second film the introduction and counselor conferences involved non-Mexican-American students. The film content on the four vocational curricula was identical in each film. The film explained the purpose of each vocational area, showed students learning and working at the Regional Vocational Center and then showed individuals using in actual jobs in local businesses and industry the skills that are taught at RVC. The two introductory film scripts and the description of the four film vignettes are included in Appendix O.

After the presentation of each of the four curricula areas, students were asked to answer (in a Student Response Booklet which was developed for use with the films) questions on the curriculum area just presented. A voice on the film said, "Stop the Projector. Answer the questions in your booklet." The students were given approximately one minute to answer the questions. Then they were instructed to turn the page and read the correct answers to the questions they had just answered. When the students completed reading the answers, the projector was again started and the next curriculum area was presented. (See Appendix P for a copy of the Student Response Booklet). Total running time for each entire film presentation, including response time, was approximately 45 minutes.

In the first study, the questions to be answered were presented before the students saw the curriculum area vignette in which they learned the answers. However, in Study B, these questions were posed and answered following each vignette. This change was introduced in order to have ethnic social modeling be the main variable in this study. If the questions are posed prior to viewing as audiovisual vignette in which the answers are found, it is possible that

conflict resolution as discussed by Berlyne (1960) enters in as a significant variable in the results produced by the study. However, the complicated design of Study A made it impossible to assess the effects of this variable, therefore it was eliminated from the current study. Nevertheless, a form of audience participation in the treatments was included in order to encourage more information gain as discussed in Chapter One.

Booklet Treatment

A third treatment condition had students read four brochures which are published by the San Jose Regional Vocational Center on the four curricula areas which were presented in the films. After reading each brochure, the subjects answered the same questions that were given to the film treatment subjects. After reading the answers to the questions, the subjects were told to begin reading the next brochure and so forth.

Baseline Control

Subjects who provided a measure of the baseline control were not given a presentation on the Regional Vocation Center. They were simply given a sheet of paper which called to their attention the presence of the Regional Vocational Center and told them that if they were interested in getting further information they should contact the school librarian or vocational counselor. A form was provided at the bottom of the sheet for students who wished to request a visit with the counselor. The announcement which was given to the control subjects is included in Appendix Q.

Criterion Measures

The criterion measures used in this study were developed and selected to measure the subjects':

1. attitudes toward vocational education;
2. reactions to the presentations;
3. education information-seeking behaviors.

Once again, an Educational Information-Seeking Inventory was used and is essentially the same as in Study A, with minor modifications in the introductory comments. The main modification was that the activities of filling in a request to see the vocational counselor and carrying through by meeting with him were included in this information-seeking behavior criterion. The other two instruments used were the Vocational Education Attitude Questionnaire and the Student Reaction Sheet which are identical to those used in Study A and are included in Appendices C and G.

EXPERIMENTAL PROCEDURES

The four phases of the experiment were completed as follows:

1. February 10, 1970--Pretest administration of the Vocational Education Attitude Questionnaire to all subjects.
2. February 11, 1970--Administration of treatment conditions and Student Reaction Sheet.
3. February 18, 1970--Post test administration of the Vocational Education Attitude Questionnaire.
4. March 3 and 4, 1970--Administration of the three week follow-up of the Educational Information-Seeking Inventory.

Research Team

The primary research team was made up of a Research Associate and a Research Assistant from the American Institutes for Research in Palo Alto, California. The treatment conditions were administered by three male doctoral candidates from Stanford University, one of whom was a Mexican-American who administered the Mexican-American film treatment in an attempt to support and to be consistent with that film's ethnic modeling effect.

Treatment Administration Procedures

The treatment administrators were given standardized instructions to read to the subjects. Copies of these instructions are included in Appendix R. The administrators entered individual classrooms and the students were instructed to report to one of three locations--depending on the treatment (Mexican-American model film, non-Mexican-American model film, Booklet) to which they had been randomly assigned.

The administrator for the Mexican-American model film treatment was a Mexican-American adult male. The administrators for the Booklet treatment, the non-Mexican-American model film treatment, and the Baseline Control treatment were Anglo adult males. All subjects were told that this was a continuation of the study of vocational tests and materials and that "today we are interested in your reactions to some educational and vocational materials." The instructions to the administrator of the Baseline Control treatment are also included in Appendix R. All treatment administrations were completed in one day.

At the end of the film and booklet presentations, each subject completed the same Student Reaction Sheet that was used in Study A. After filling out the reaction sheet, students read a statement which said that if they were interested in obtaining more information about the Regional Vocational Center they could contact the school's vocational counselor or the librarian who would make some relevant material available. If students wished to see the vocational counselor,

they could fill out and submit a counselor request form which was part of the Student Response Booklet. The Student Response Booklets and Reaction Sheets were collected by a member of the Research Team at the end of the class period for each of these three treatment conditions. Because they did not receive treatment materials, control subjects did not fill in the Student Reaction Sheet.

Testing Procedures

The administrators for the testing sessions used standardized instructions which are included in Appendix S. At no time during the study were the subjects told that this was an experiment, but rather that it was a study of vocational tests and materials. The pretest and posttest sessions for the Vocational Education Attitude Questionnaire lasted approximately 30 minutes.

The Educational Information-Seeking Inventory was administered by two members of the research team to classes of approximately 25 students. These research assistants read the instructions to the inventory aloud while the students followed along with their copies. In order to facilitate the data collection, members of the team were then available to distribute the additional forms and to answer any questions as the students completed the inventory. It took students approximately 50 minutes to complete the inventory.

Statistical Procedures

All student responses on each of the criterion measures were transferred to IBM cards. The scoring procedures for each criterion instrument were:

Vocational Education Attitude Questionnaire. This was scored on the basis of the procedure outlined in Appendix C and provided both a pretest and posttest score.

Information-Seeking Inventory. In addition to behaviors recorded in the inventory which was completed three weeks after the treatment procedures, the subjects' requests for further discussion with the counselor and their actual

carrying through with the discussion were considered information-seeking behaviors. One point for performing each of these behaviors was added to the frequency count from the inventory.

Student Reaction Sheet. Responses to the three reaction sheet questions were scored in the same way as they were in Study A. However, for each subject, the scores were summed to give one criterion for this instrument rather than three criteria as were used in Study A.

All data from the instruments were subjected to computer analysis undertaken at the Stanford Computer Facility on an IBM 360/67 computer using programs drawn from the BMD Biomedical Computer Programs (Dixon, 1967, 1969). First, BMD X64 was run on the attitudinal data with the pre-experimental scores used as covariate information in this analysis of covariance procedure. Data from the other two instruments were studied through analysis of variance since only post-experimental scores were available in these two instances. For these data BMD X64 was also used.

SUMMARY

The purpose of Study B was to test the effects of filmed ethnic social models on the educational information-seeking behaviors and attitudes of Mexican-American and non-Mexican-American tenth-grade boys and girls. A written presentation which did not make use of ethnic social modeling and a baseline control treatment were also administered. Eleven major hypotheses relative to these three treatment conditions and the baseline control were formulated. The four dependent variables were: pretest and posttest scores on attitudes toward vocational education, post treatment information-seeking behaviors, and reactions to the treatment presentations. The three independent variables in Study B were: treatment procedures, ethnic group membership, and sex. The results for Study B will be reported in the following chapter.

CHAPTER V

RESULTS AND DISCUSSION--STUDY B

This chapter will present the results of the analysis of variance and analysis of covariance for the data collected in Study B. A 4 x 2 x 2 factorial design was used involving 4 treatment conditions, 2 ethnic groups, and 2 sexes. Three types of data were collected: 1) attitude change, 2) educational information-seeking behaviors, and 3) reactions to the treatment materials. The first data presented will be those pertaining to the assessment of attitude change.

Assessment of Attitude Change

Measures of attitudes toward vocational education were taken one day prior to, and one week following, the treatment administrations. An analysis of covariance was performed on the resultant data with scores from the initial or "pre-" measure used as the covariate. Table 9a shows the results of this analysis. In Table 9b the following additional data are reported: pre-test mean, post-test mean, adjusted mean, pre-test standard deviation, post-test standard deviation, and cell size.

The maximum possible range of scores on this criterion measure was 20 to 80, with 50 representing a neutral attitude toward vocational education. As can be seen in Table 9b all subjects in the study exhibited a slightly positive attitude toward vocational education both before and after the treatment period. Although in 11 of the possible 16 cases the post-treatment mean scores in each cell were higher than were the pre-treatment scores the trend was negligible. This statement is supported by the Table 9a data which indicates that no significant main or interaction effects were found for the attitude scores when the results for all four treatments were analyzed.

TABLE 9a

ANALYSIS OF COVARIANCE: VOCATIONAL EDUCATION ATTITUDE QUESTIONNAIRE

Source	Sum of Squares	D.F.	Mean Square	F	p
Ethnic Group	7.89	1	7.89	0.16	--
Sex	33.96	1	33.96	0.70	--
Treatment	17.82	3	5.94	0.12	--
Ethnic Group x Sex	126.04	1	126.04	2.60	--
Ethnic Group x Treatment	51.45	3	17.15	0.35	--
Sex x Treatment	163.52	3	54.51	1.13	--
Ethnic Group x Sex x Treatment	44.10	3	14.70	0.30	--
Error	4,213.36	87	48.43		--
Total	4,658.14	102			--

TABLE 9b

MEANS, STANDARD DEVIATIONS AND N FOR VOCATIONAL EDUCATION ATTITUDE QUESTIONNAIRE

Independent Variables		Treatment Procedures			
		Non-Mexican-American Film Treatment	Mexican-American Film Treatment	Booklet Treatment	Control Treatment
Non-Mexican-American Students	Females	pre $\overline{X}$ 62.33 post $\overline{X}$ 64.50 adjusted $\overline{X}$ 59.58 pre σ 5.69 post σ 2.52 N 4	pre $\overline{X}$ 59.88 post $\overline{X}$ 56.43 adjusted $\overline{X}$ 56.09 pre σ 4.76 post σ 12.18 N 8	pre $\overline{X}$ 62.00 post $\overline{X}$ 60.80 adjusted $\overline{X}$ 57.76 pre σ 5.16 post σ 8.38 N 5	pre $\overline{X}$ 58.50 post $\overline{X}$ 59.83 adjusted $\overline{X}$ 58.07 pre σ 5.66 post σ 6.49 N 12
	Males	pre $\overline{X}$ 55.92 post $\overline{X}$ 55.80 adjusted $\overline{X}$ 57.99 pre σ 10.37 post σ 8.66 N 12	pre $\overline{X}$ 58.50 post $\overline{X}$ 58.00 adjusted $\overline{X}$ 57.27 pre σ 6.63 post σ 11.37 N 13	pre $\overline{X}$ 59.91 post $\overline{X}$ 61.64 adjusted $\overline{X}$ 59.47 pre σ 6.11 post σ 8.08 N 12	pre $\overline{X}$ 57.83 post $\overline{X}$ 61.67 adjusted $\overline{X}$ 61.46 pre σ 3.06 post σ 3.88 N 6
Mexican-American Students	Females	pre $\overline{X}$ 57.00 post $\overline{X}$ 58.14 adjusted $\overline{X}$ 62.12 pre σ 5.02 post σ 10.32 N 8	pre $\overline{X}$ 55.14 post $\overline{X}$ 61.20 adjusted $\overline{X}$ 63.61 pre σ 6.26 post σ 6.87 N 7	pre $\overline{X}$ 55.10 post $\overline{X}$ 56.11 adjusted $\overline{X}$ 59.38 pre σ 12.48 post σ 9.91 N 11	pre $\overline{X}$ 59.00 post $\overline{X}$ 62.00 adjusted $\overline{X}$ 58.54 pre σ 9.54 post σ 6.48 N 4
	Males	pre $\overline{X}$ 45.75 post $\overline{X}$ 48.40 adjusted $\overline{X}$ 54.33 pre σ 30.81 post σ 27.52 N 6	pre $\overline{X}$ 60.00 post $\overline{X}$ 58.67 adjusted $\overline{X}$ 56.02 pre σ 3.87 post σ 7.17 N 8	pre $\overline{X}$ 59.57 post $\overline{X}$ 61.60 adjusted $\overline{X}$ 58.90 pre σ 5.26 post σ 7.57 N 7	pre $\overline{X}$ 58.11 post $\overline{X}$ 60.63 adjusted $\overline{X}$ 59.70 pre σ 5.71 post σ 4.53 N 9

Assessment of Educational Information-Seeking Behaviors

An educational information-seeking behaviors score for each subject was obtained by summing scores from three separate measures to produce a single score. The three sources were: requests by subjects to see the vocational counselor (one point), subjects' actually carrying through on seeing the vocational counselor (one point), and behavioral incidents reported on the Educational Information-Seeking Behavior Inventory (one point for each behavior performed). All data on this criterion instrument were collected subsequent to the administration of the treatment conditions, and because of these single score data, analysis of variance had to be performed. Tables 10a and 10b present all available analysis of variance results for this procedure.

The tables indicate that the major effect of sex was significant but only at the .10 level, with females performing more information-seeking behaviors than males. The ethnic group by sex interaction was also significant at the .10 level. An investigation of this interaction indicated that non-Mexican-American females scored considerably higher than non-Mexican-American males, while Mexican-American males scored slightly higher than Mexican-American females. Once again, no significant main or interaction effects resulted from these data involving all four treatment approaches investigated in this study.

Assessment of Reactions to Treatment Conditions

The reactions of students to the three treatment conditions (non-Mexican-American model film, Mexican-American model film, and booklet) were collected immediately following the treatment. Since subjects in the baseline control group were not exposed to materials, reactions of these students in the control condition were not collected. Analysis of variance was also done on these data and Tables 11a and 11b present the complete results from this procedure.

TABLE 10a

ANALYSIS OF VARIANCE: EDUCATIONAL INFORMATION-SEEKING INVENTORY

Source	Sum of Squares	D.F.	Mean Square	F	p
Ethnic Group	7.81	1	7.81	1.34	--
Sex	22.79	1	22.79	3.90	.10
Treatment	20.58	3	6.86	1.17	--
Ethnic Group x Sex	19.66	1	19.66	3.37	.10
Ethnic Group x Treatment	2.20	3	0.73	0.13	--
Sex x Treatment	13.84	3	4.61	0.79	--
Ethnic Group x Sex x Treatment	14.85	3	4.95	0.85	--
Error	589.76	101	5.84		
Total	691.49	117			

TABLE 10b

MEANS, STANDARD DEVIATIONS, AND N FOR EDUCATIONAL INFORMATION-SEEKING INVENTORY

Independent Variables		Treatment Procedures			
		Non-Mexican-American Film Treatment	Mexican-American Film Treatment	Booklet Treatment	Control Treatment
Non-Mexican-American Students	Females	$\bar{X}$ 4.00 σ 3.65 N 4	$\bar{X}$ 4.50 σ 3.89 N 8	$\bar{X}$ 4.00 σ 5.35 N 5	$\bar{X}$ 3.45 σ 2.46 N 12
	Males	$\bar{X}$ 1.70 σ 1.83 N 12	$\bar{X}$ 3.17 σ 1.85 N 13	$\bar{X}$ 1.44 σ 1.74 N 12	$\bar{X}$ 2.33 σ 2.25 N 6
Mexican-American Students	Females	$\bar{X}$ 3.50 σ 2.26 N 8	$\bar{X}$ 3.75 σ 2.61 N 7	$\bar{X}$ 1.30 σ 1.34 N 11	$\bar{X}$ 1.67 σ 2.89 N 4
	Males	X 2.00 σ 1.55 N 6	X 2.38 σ 2.13 N 8	X 2.43 σ 2.37 N 7	X 3.14 σ 2.12 N 9

TABLE 11a

ANALYSIS OF VARIANCE: REACTIONS TO THE FILM AND BOOKLET TREATMENT MATERIALS

Source	Sum of Squares	D.F.	Mean Square	F	p
Ethnic Group	12.72	1	12.72	1.85	--
Sex	5.75	1	5.75	0.84	--
Treatment	43.99	2	22.00	3.19	$p<.05$
Ethnic Group x Sex	1.14	1	1.14	0.17	--
Ethnic Group x Treatment	6.38	2	3.19	0.46	--
Sex x Treatment	6.35	2	3.18	0.46	--
Ethnic Group x Sex x Treatment	35.10	2	17.55	2.55	--
Error	613.06	89	6.89		
Total	724.49	101			

TABLE 11b

MEANS, STANDARD DEVIATIONS, AND N FOR REACTIONS TO TREATMENT MATERIALS

Independent Variables		Treatment Procedures		
		Non-Mexican-American Film Treatment	Mexican-American Film Treatment	Booklet Treatment
Non-Mexican-American Students	Females	$\bar{X}$ 11.25 σ 1.71 N 4	$\bar{X}$ 10.78 σ 2.54 N 8	$\bar{X}$ 10.00 σ 2.12 N 5
	Males	$\bar{X}$ 10.08 σ 2.02 N 12	$\bar{X}$ 11.25 σ 2.14 N 13	$\bar{X}$ 8.50 σ 3.15 N 12
Mexican-American Students	Females	$\bar{X}$ 12.43 σ 1.51 N 8	$\bar{X}$ 12.00 σ 1.31 N 7	$\bar{X}$ 9.18 σ 3.13 N 11
	Males	$\bar{X}$ 11.50 σ 4.85 N 6	$\bar{X}$ 10.13 σ 3.31 N 8	$\bar{X}$ 11.14 σ 1.46 N 7

The range of possible scores on this measure of student reaction to the treatment conditions was 3 to 15 points, with 9 representing a neutral reaction, 3 a negative and 15 a positive reaction. Inspection of the mean scores for each cell in Table 11b indicates that with the exception of the two cells on the booklet treatment condition, subjects' reactions tended to be slightly positive. Also, in all except one case the subjects' reactions to the films were more positive than they were to the booklet. This trend seemed to be supported statistically by a significant main effort for treatment which was found to be significant at the .05 level. Further data analyses are planned to determine the actual level of statistical significance of this comparison. The only other effect which is noticeable in Table 11a is the second order interaction effect but this did not approach a conventional level of significance.

Intercorrelation Matrix

The product-moment intercorrelations of the four dependent variables in this study are displayed in the matrix in Table 12. The intercorrelations between the variables were computed in order to determine if any of the criterion measures were so related that in effect they were not separate measures. One can infer from the generally low intercorrelations among the measures that they were independent; in other words there is no evidence that they were measuring the same traits or characteristics. The one exception is the .73 correlation between the pre and post attitude scores on the same measure. This high correlation can be understood since no significant attitude change took place as a function of the treatments.

TABLE 12

INTERCORRELATION MATRIX FOR THE FOUR VARIABLES OF STUDY B

Variable	#1 Pretest Vocational Attitude Questionnaire	#2 Posttest Vocational Attitude Questionnaire	#3 Vocational-Educational Information-Seeking Behaviors	#4 Student Reactions
#1	1.00	0.73	0.04	0.28
#2	0.73	1.00	0.02	0.29
#3	0.04	0.02	1.00	0.31
#4	0.28	0.29	0.31	1.00

DISCUSSION

Having presented the data on each of the three criterion measures in the preceding section, we will now discuss these results and relate them to the 11 hypotheses which were stated in Chapter IV. These hypotheses can be restated in summary form in terms of their major comparisons, as follows:

1. Subjects who receive either of the two film presentations will engage in more educational information-seeking behaviors, and will make more favorable attitude changes than will similar subjects assigned to non-film conditions and will have more favorable reactions to the treatment materials than will similar subjects assigned to the booklet condition.
2. Subjects assigned to a filmed treatment conditions using models of the same ethnic group will report more information-seeking behaviors, will make more favorable attitude changes, and will have more favorable reactions to the treatment materials than will subjects who receive a film treatment employing models of different ethnic background from the subject.
3. Subjects assigned to the booklet procedure will report more information-seeking behaviors, and will report more favorable attitude changes than will similar subjects assigned to the control condition.

The hypotheses relevant to each of these statements will now be discussed.

Film Presentations vs. Booklet and Control

Hypothesis 1. (Information-Seeking) Subjects who receive either of the two film presentations will engage in more educational information-seeking behaviors than will similar subjects assigned to the booklet or the control condition.

The evidence failed to support the expectation that the films would stimulate more information-seeking behaviors in students who saw them than in students who participated in either the booklet or control condition. The results indicated that the Mexican-American model film did stimulate the most information-seeking, but the non-Mexican-American model film surpassed only the booklet and fell below the control in stimulating such behaviors. Further analyses seem advisable in order to ascertain the significance levels of these apparent differences.

Although no hypotheses were formulated concerning sex, analysis by sex was performed. The sex by treatment interaction was not significant, but it can be noted that female subjects who received the film treatment did engage in more educational information-seeking than did female subjects assigned to the booklet or control conditions. Male subjects who received the Mexican-American model film treatment and the control treatment performed approximately the same and better than male subjects in either the non-Mexican-American model film or the booklet treatment conditions.

Hypothesis 2. (Attitude) Subjects who receive either of the two film presentations will make more favorable attitude changes toward vocational education than will similar subjects assigned to the booklet or control conditions.

This hypothesis received no support from the data. In fact the booklet and control conditions both produced greater attitude changes than either of the films, although there seemed to be no significant differences among any of the conditions. The sex by treatment interaction reveals that female subjects who received either of the two film presentations did make more favorable attitude changes toward vocational education than did female subjects assigned to the booklet and control conditions. However, male subjects reported uniformly low attitude change for the two film conditions, with the control condition eliciting the most favorable attitude change in males. The control

condition consisted of a simple announcement which reminded the subjects of the availability of the vocational center. It thus appeared that the more straight-forward, less involved approach produced a more positive attitude in male subjects; however, this statement was not supported by findings which received desirable levels of statistical significance (i.e., $p<.05$).

Hypothesis 3. (Student Reactions) Subjects who receive either of the two film presentations will have more favorable reactions to the treatment than will similar subjects assigned to the booklet.

The data supported this hypothesis revealing differences significant at the $p<.05$ level of confidence. The booklet treatment condition produced significantly less favorable reactions than did the two film conditions. The finding seemed to suggest that subjects who received either of the two film conditions felt that the materials were more interesting, of better quality, and stimulated more vocational exploration than did subjects who read the booklet. It appeared that filmed rather than written presentations were more appealing to students as a media for presenting vocational education information.

Film Comparisons

Hypotheses 4 through 9 all relate to the comparisons between the Mexican-American model film and the non-Mexican-American model film with Mexican-American and non-Mexican-American students. Figures 3, 4 and 5 graph the relationships discussed in these hypotheses. Further data analyses are planned in order to determine the level of statistical significance of some of the more meaningful comparisons depicted in these figures and discussed in general terms in the following paragraphs.

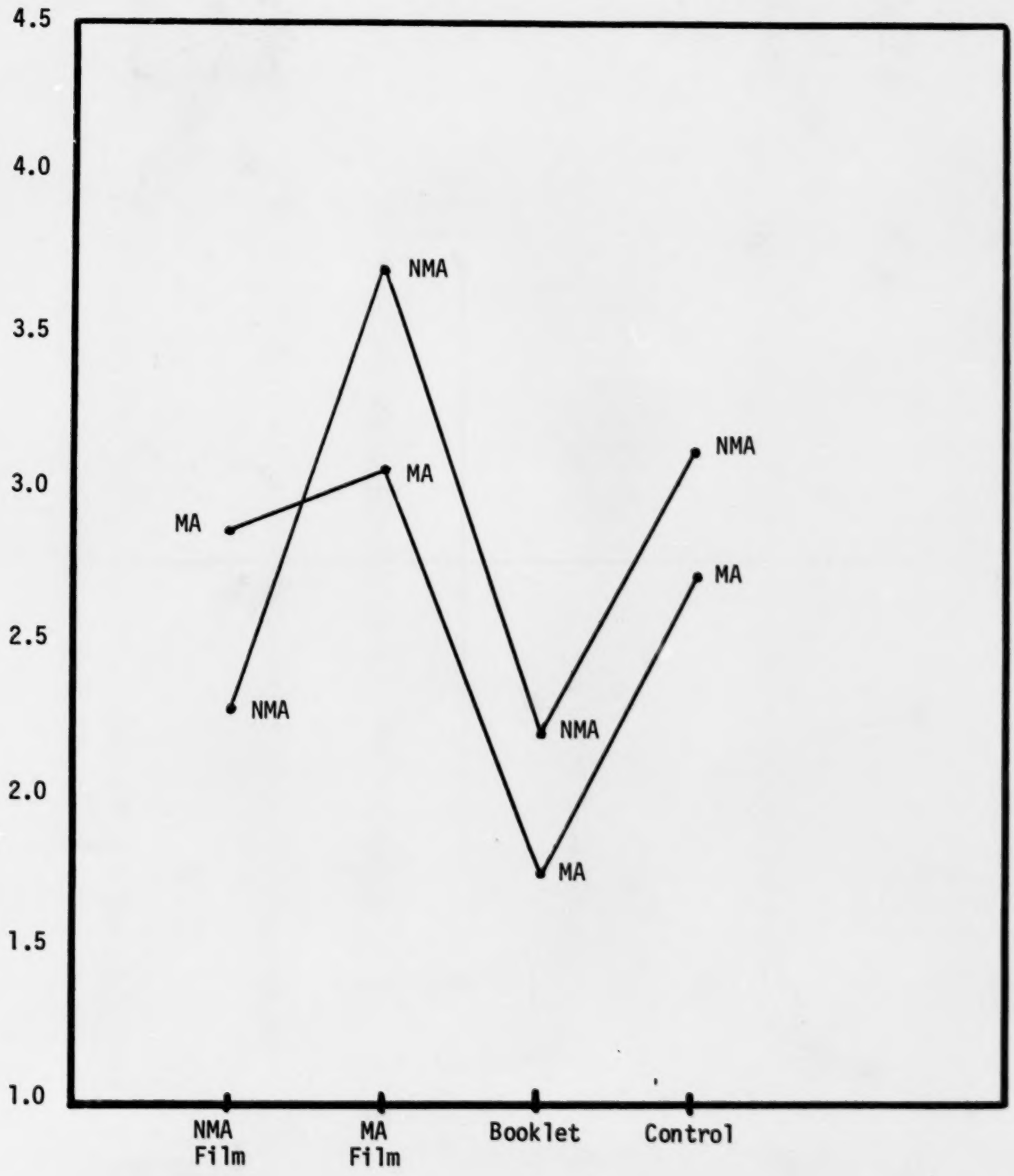
Hypothesis 4. Mexican-American subjects who receive the Mexican-American model film will engage in more educational information-seeking behaviors than will Mexican-American subjects assigned to the non-Mexican-American model film.

Hypothesis 7. Non-Mexican-American subjects who receive the non-Mexican American model film will engage in more educational information-seeking behaviors than will non-Mexican-American subjects assigned to the Mexican-American film.

The results relevant to these two hypotheses are graphed in Figure 3. It can be seen that Mexican-American subjects who viewed the Mexican-American model film did perform slightly more information-seeking behaviors than did Mexican-American subjects who received the non-Mexican-American model film. The difference however does not appear to be significant. This trend seemed to be reversed, and contrary to the hypothesis, in the case of non-Mexican-American subjects. Thus, it appears that non-Mexican-American subjects were more affected, in terms of being stimulated to gather information, by the Mexican-American social model film than they were by the model of their own ethnic group. One possible explanation for this finding could be the status of the models as perceived by the subjects. Social psychological studies on imitative behavior as a function of perceived status of the model have found that subjects are more inclined to imitate the behavior of a high-status model than a low-status model. For example, Lefkowitz, Blake, and Mouton (1955) found that high-status violators of pedestrian traffic signals were imitated by many more people than were low-status violators. It can be seen that Study B's finding apparently runs counter to that which would be expected on the basis of the general body of social psychological research. However, a possible resolution of this inconsistency might be effected as follows: one could make the assumption that the Mexican-American models were perceived as having lower status (an assumption consistent with the social structure of the community in which the study was conducted) and, regardless of whether the subjects were performing them or not, that the information-seeking behaviors which were emphasized in the film, were perceived as socially desirable or positive. Since it seems quite plausible that the behaviors modelled in the study were perceived by the subject as positive or desirable ones; this might be what distinguished this

FIGURE 3

PERFORMANCE OF EDUCATIONAL INFORMATION-SEEKING BEHAVIORS: ETHNICITY X TREATMENT



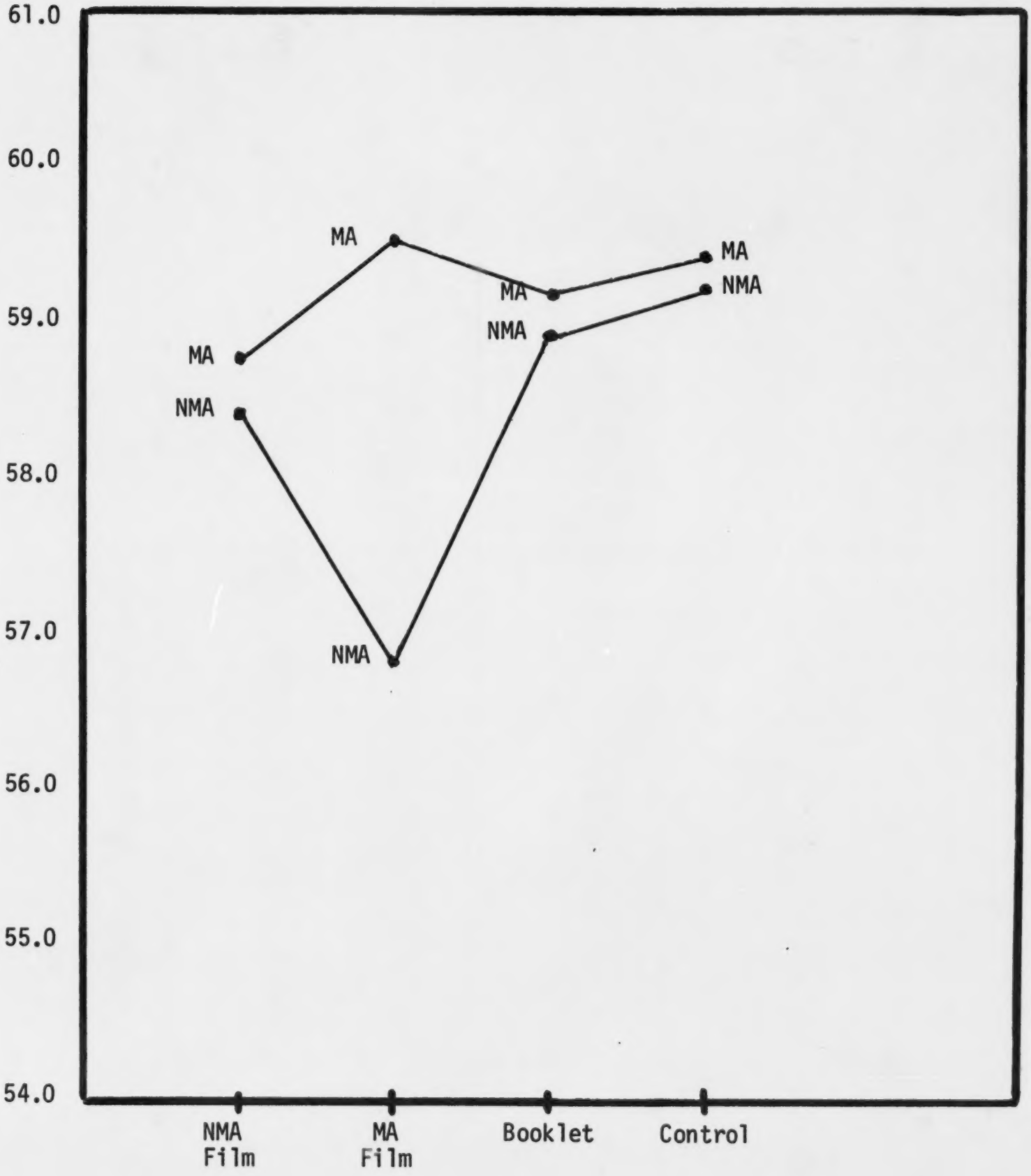
study from the usual psychological experiments where negative or neutral behaviors (e.g., crossing the street against the traffic signal or aggressive behaviors) have typically been the modelled responses.

Thus, it could be that the non-Mexican-American subjects observed a lower status model performing positive or socially desirable behaviors, ones in which they themselves were not currently engaged. These non-Mexican-American subjects then might have been spurred into performing these behaviors in order not to be "left behind." What remains to be explained is why the same pattern of results was not found for the Mexican-American group. The data reveal that these subjects did not react differentially to the two different models. Probably it was not unusual for them to view a higher status model performing desirable behaviors. The question remains, however, why the Mexican-American model did not induce more information-seeking behaviors? A tentative explanation might lie in whether or not the Mexican-American subjects perceived their ethnic group model as being a believable or real-to-life person. A suggestion can be found in the data on "student reactions" (Figure 5) which revealed that these subjects had a lower opinion of the Mexican-American model film than they did of the non-Mexican-American model film. Thus, in light of their reactions to the materials it is not surprising that the Mexican-American subjects did not react more in comformity with the modelled behaviors.

Hypothesis 5. Mexican-American subjects who receive the Mexican-American model film will make more favorable attitude changes toward vocational education than will Mexican-American subjects assigned to the non-Mexican-American model film.

FIGURE 4

ATTITUDE TOWARD VOCATIONAL EDUCATION: ETHNICITY X TREATMENT

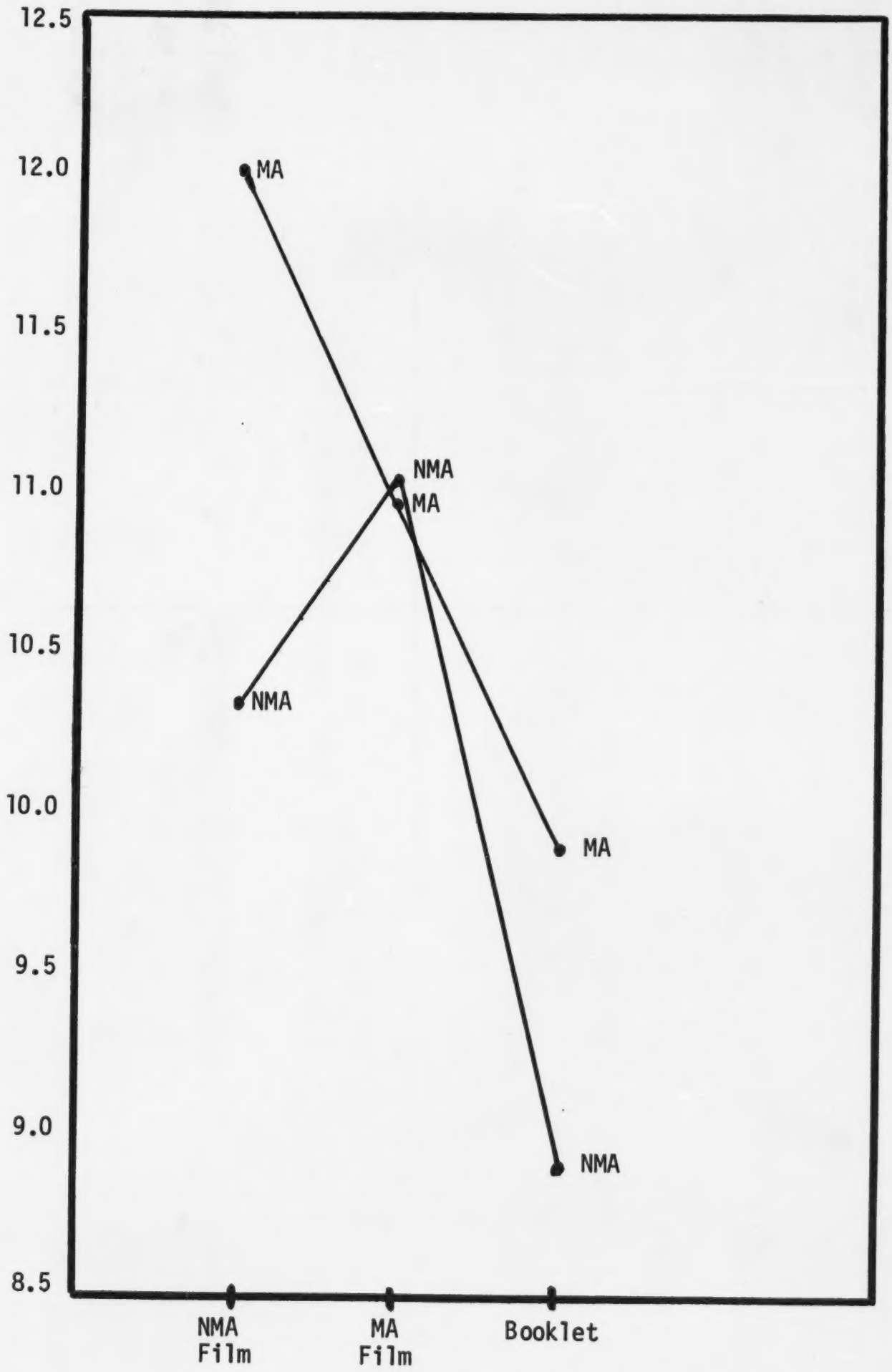


Hypothesis 8. Non-Mexican-American subjects who receive the non-Mexican-American model film will make more favorable attitude changes toward vocational education than will non-Mexican-American subjects assigned to the Mexican-American model film.

The graph is Figure 4 suggests that Mexican American subjects who viewed the Mexican-American model film did make slightly more favorable attitude changes toward vocational education, than did Mexican-American subjects viewing the opposite ethnic model. Once again the difference, however, probably will not be statistically significant. A similar trend was established by non-Mexican-American subjects, with more favorable attitude changes being made by non-Mexican-American subjects in the like ethnic group film treatment. Thus, there was a trend which was consistent with the hypothesis, but there probably was no statistically significant confirmation of it. The difference between the two ethnic groups for the non-Mexican-American model film was almost negligible, but there seemed to be a substantial difference for the Mexican-American model film. It is possible that since non-Mexican-Americans are the most common models used in educational material, these models produced no major attitude change in either group investigated in this study. However, viewing materials with Mexican-American models possibly was perceived as being more unique and was positively responded to by Mexican-Americans and negatively viewed by non-Mexican-Americans. Referring back to the possible issue of status which was mentioned in relationship to the preceding two hypotheses, it seems plausible to conjecture that the sight of Mexican-Americans in the film might have stimulated non-Mexican-Americans to begin some kind of information search concerning their occupational future (the information-seeking inventory which was administered did not restrict itself to vocational school search alone) but it might have lowered their attitude toward vocational training <u>per se</u> because of the lower status of Mexican-American film models. This possibility is only a subject for conjecture at this time as further experimental

FIGURE 5

STUDENT REACTIONS: ETHNICITY X TREATMENT



investigation would be necessary before an acceptable explanation would be made of such apparently conflicting findings.

Hypothesis 6. Mexican-American subjects who receive the Mexican-American model film will have more favorable reactions to the treatment than will Mexican-American subjects assigned to the non-Mexican-American model film.

Hypothesis 9. Non-Mexican-American subjects who receive the non-Mexican American model film will have more favorable reactions to the treatment than will non-Mexican-American subjects assigned to the Mexican-American model film.

As is indicated in Figure 5, the data failed to support either of these predictions; in fact, the actual trends ran opposite to the expected findings. Each ethnic group reacted more favorably to the model of the opposite ethnic background than to the model of similar ethnicity. From the graph, however, it can be seen that this phenomenon seemed to be due entirely to the large ethnic group differences occurring in the non-Mexican American model condition.

The Mexican-American students appeared to react quite favorably to the non-Mexican-American model, whereas the Mexican-American students seemed to react much less favorably to the same-ethnicity model. There was virtually no difference between the two ethnic groups who experienced the Mexican-American model, but the difference between the two ethnic groups' reactions to the non-Mexican-American model was much more pronounced. All these comparisons need to be subjected to further statistical analyses.

Hypotheses 4 through 9 have been concerned with the effect of ethnic social modeling which was the major thrust of this study. While there were some trends toward confirmation of the hypotheses, probably none of the results were statistically significant. This may have been due to the fact that the social modeling influence on the two film treatments was not strong enough. Within the treatments, social modeling was achieved by: a) having the film introduced by a series of students from one of the ethnic groups; b) showing students of

that same ethnic group in discussion with their counselors; and c) having the treatment administered by a member of that ethnic group. The major portion of each film was concerned with curriculum areas taught at the Regional Vocation Center and was identical in both the Mexican-American and non-Mexican-American model film. This was done in order to achieve a more standardized approach, but it may have limited the ethnic social modeling effect of each film and consequently contributed to the failure to significantly confirm the hypotheses. Another possible confounding variable was that of subject absenteeism, a variable not satisfactorily controlled in this study. The small cell sizes undoubtedly made it difficult for the data to attain desired levels of significance.

Booklet vs. Control

Hypothesis 10. Subjects who receive the booklet treatment will engage in more educational information-seeking than will similar subjects assigned to the control condition.

As illustrated by the graphs in Figure 3, this hypothesis did not appear to be supported. Control subjects seemed to perform more educational information-seeking behaviors than did subjects in the booklet condition. This appeared to be true for both males and females when the interaction analysis for sex by treatment was investigated though females performed slightly more behaviors than males in both conditions. A study of the interaction of ethnic group by treatment revealed that once again the control procedure seemed to be superior to the booklet in stimulating information-seeking for both Mexican-American and non-Mexican-American subjects (non-Mexican-Americans performing slightly more behaviors than did the Mexican-Americans). Thus, it appeared that, in terms of the information-seeking criterion, the booklet was markedly less effective than was the control treatment. This might be explained by the fact that the booklet required a great deal of reading which students may have

found tedious.

Hypothesis 11. Subjects who receive the booklet treatment will make more favorable attitude changes toward vocational education than will similar subjects assigned to the control condition.

The difference in attitude change for subjects in the booklet and control conditions is depicted in Figure 4 and was small and failed to provide any confirmation of the hypothesis. Analysis of the ethnic group by treatment interaction revealed that the control condition produced slightly more favorable attitude change than did the booklet condition for both Mexican-American and non-Mexican-American subjects but it is felt that this finding would not occur at a desired level of statistical significance. The sex by treatment interaction analysis revealed that the males and females reacted quite differently. The males reacted with more favorable attitude change in the control as opposed to the booklet condition. Females, however, reacted in the opposite manner, and in consonance with the hypothesis.

Analyses by Sex

Although no hypotheses were stated for sex differences, analyses by sex were performed. Two effects, dealing with educational information-seeking behaviors, were found at the statistical significance level of $p<.10$. A main effect for sex was found on this measure, with females performing more information-seeking behaviors than males as was found in previous investigations using this criterion. A sex by ethnic group interaction for the criterion revealed that non-Mexican-American females scored higher than non-Mexican-American males, but that Mexican-American males scored higher than Mexican-American females.

As discussed earlier, on the basis of available data hypotheses one and two did not appear to be confirmed, but when the sex by treatment interactions

were observed it was found that males were the ones who contradicted the hypotheses, while female subjects reacted in the manner predicted by the hypotheses. This was also the case for Hypothesis 10, where females reacted in a manner which would confirm the hypothesis. Hypothesis 3 appears to be confirmed for both sexes, however further data analysis is planned. Thus for the three hypotheses comparing the film presentations with the booklet or the control condition, and the two hypotheses comparing the control and the booklet conditions, it is found that in four of the five instances, female subjects tended to support the hypotheses, while males tended to refute them.

CHAPTER VI

SUMMARY

In these two investigations two films and two videotapes were developed as social-modeling procedures to stimulate individuals to explore and to gather information on vocational and educational opportunities available to them. The films and videotapes presented factual information about vocational programs available at the San Jose Regional Vocational Center, and procedural information on seeking information about programs and career opportunities. The key experimental phases of the two studies compared the relative influence of Mexican-American and non-Mexican-American social models on Mexican-American and non-Mexican-American tenth-grade subjects. The rationale for these studies was derived primarily from social learning theories.

Hypotheses

Four major hypotheses were tested in each of the studies: (1) Subjects assigned to the experimental film and videotape conditions will report more information-seeking behavior, have more positive attitude scores toward vocational education, will show more interest in selected vocational occupations and activities (Study A), and will have more favorable reactions to the treatments (Study B) than will subjects assigned to active or baseline control conditions; (2) Mexican-American subjects who observe the Mexican-American models will score higher on the criterion measures than will Mexican-American subjects who observe the non-Mexican-American models; (3) non-Mexican-American subjects who see the non-Mexican-American model videotape or film will score higher on the criterion measures than will non-Mexican-American subjects who view the Mexican-American models; (4) subjects given the script in Study A will score higher on all criterion measures than

will subjects given the audiotape; and in Study B, subjects given the booklet will score higher than will subjects in the baseline control condition.

Method--Study A

The experiment was conducted in tenth-grade state required courses at two high schools in San Jose, California. The student population at one school was predominately non-Mexican-American and middle class while students at the second school were largely from Mexican-American and low socioeconomic level families. This information was derived from census track data. The sample consisted of 68 Mexican-American and 179 non-Mexican-American boys who were randomly assigned by blocks within school and within ethnic group to each of the four treatment conditions. The cell sizes were unequal, due to the small proportion of Mexican-American students at the middle socio-economic level school.

A control variable, interest in the four vocational programs, was used in the block randomization of subjects. It was found, however, that this measure did not correlate significantly with any of the dependent variables. The basic design was therefore altered to a modified pretest-posttest no-treatment control group design with two active-control procedures instead of a no-treatment control group. A 4 x 2 x 2 factorial design was used involving four treatment conditions (two experimental videotapes, an audio presentation of the videotape script, and a written presentation of the same script), two socioeconomic levels and two ethnic groups.

Method--Study B

Study B was conducted with tenth-grade males and females from a high school in San Jose, California. The student population from the school was approximately 40% Mexican-American, and Mexican-American and non-Mexican-

American students were used as subjects. A 4 x 2 x 2 factorial design was employed involving four treatment conditions (two experimental films, a booklet, and a brief oral presentation), two ethnic groups, and two sexes.

Criteria

The criteria of treatment effectiveness were as follows:

1. Frequency of educational information-seeking behaviors (collected three weeks after the treatments in both studies).
2. Scores on the subjects' opinions and attitudes relevant to vocational education (surveyed just before and after the treatments in both studies).
3. Scores on the subjects' interest in selected occupations and related activities (assessed just before and after the treatments in Study A only).
4. Scores on subjects' immediate reactions to the treatments (used as a primary criterion in Study B only).

Results--Study A

The results of this investigation of ethnic social modeling procedures suggest the following:

1. Subjects who observed the experimental videotapes showed no significant differences on the three criterion measures when compared with the subjects who received the two active-control treatment procedures. Therefore, the ethnic social modeling procedures were no more effective in stimulating information-seeking and in changing subjects' vocational opinions and interests than were the two active-control procedures (audiotape and script from videotapes).
2. Mexican-American subjects who saw the Mexican-American social models and the non-Mexican-American subjects who saw the non-Mexican-

American social models did score higher on the measure of the subjects' interest in selected occupations and related activities than did subjects who saw models of an ethnic group unlike their own. Therefore, the ethnic social modeling procedure did have a measurable effect on the interest measure.

3. Mexican-American and non-Mexican-American subjects who saw the non-Mexican-American model videotape did show a significantly more positive opinion relevant to vocational education than did the subjects who saw the Mexican-American models. Therefore, the non-Mexican-American social modeling procedure was more effective than the Mexican-American social modeling procedure in changing subjects' opinions about vocational education.
4. All subjects who received the script treatment did not score higher on the three criterion measures than did the subjects who received the audiotape treatment. Therefore, the script was not more effective in stimulating information-seeking behaviors and in changing subjects' vocational opinions and interests than was the audiotape. In general those subjects enrolled at the low socioeconomic level school obtained a higher score on the opinion measure than did the subjects enrolled at the middle socioeconomic level school.

The findings on the supplemental measures of student reactions to the treatment materials were that the subjects' immediate reactions to two ethnic social modeling videotape procedures and two active-control conditions suggested that the Mexican-American subjects had a higher level of interest in, and were more stimulated to say they would obtain further vocational information, after they used their vocational and educational materials, than did the non-Mexican-American subjects. This indicated interest and stimulation did not carry over to consistent changes in vocational information-seeking behaviors, opinions,

and interest changes, as measured by the main criteria employed in this investigation.

Results--Study B

The results for Study B suggest the following:

1. All subjects who observed the experimental films seemed to have significantly more positive reactions to the treatment conditions than did subjects assigned to the booklet treatment condition. Therefore, it appears that this study's subjects preferred filmed rather than written presentations. However, there appeared to be no significant differences among the treatments in influencing either the number of information-seeking behaviors which were performed by the subjects or the attitudes the subjects held toward vocational education.
2. Female subjects who received the film treatments seemed to perform more information-seeking responses and to make more favorable attitude changes toward vocational education than did female subjects assigned to the booklet or control conditions. Therefore there appears to be a differential effect by sex concerning the effectiveness of these treatment conditions.
3. Mexican-American subjects who saw the Mexican-American social models did perform slightly more information-seeking behaviors, and did make slightly more favorable attitude changes than did Mexican-American subjects who viewed non-Mexican-American models. Therefore there was a trend toward indication that the ethnic social modeling procedures did have a differential modeling effect among Mexican-American subjects. However, Mexican-American subjects who received the Mexican-American model film did not have more favorable reactions to the treatment than did Mexican-American subjects who received the opposite ethnic model film.

4. Non-Mexican-American subjects who viewed the film with the non-Mexican American models were not stimulated to perform more information-seeking or did not react more favorably to the treatment than were non-Mexican-American subjects who viewed the Mexican-American model film. However, non-Mexican-American subjects who viewed the like ethnic model film seemed to have significantly more favorable attitudes toward vocational education.
5. The control condition appeared to surpass the booklet condition in terms of stimulating subjects to seek educational-vocational information. Since the control condition consisted of a short statement, it appears that such a statement was more effective than having students read lengthy presentations which they might find exceedingly tedious.
6. Female subjects who received the booklet treatment seemed to make more favorable attitude changes toward vocational education than did female subjects in the baseline control condition. This was not true for male subjects.
7. On the criteria of information-seeking, female subjects performed significantly more behaviors than did male subjects. Once again, there was a differential effect by sex and this finding was consistent with sex differences found in previous studies which used this criterion.

Figures 3, 4 and 5 in Chapter V suggest some meaningful ethnic group and treatment condition interactions and tests of significance which will be explored in greater detail. Since these further analyses were not available at the time of this report, they could not be included but will be performed in the near future.

The major findings in Study A included a modeling effect, particularly on

the vocational interest measure and less dramatically on the opinion measure. This was found among both Mexican-American and non-Mexican American subjects who saw the ethnic social modeling videotapes. Study B further suggested that films rather than written presentations are more favorably reacted to by all subjects and that female subjects responded to the treatment suggestions to engage in vocational-educational information-seeking significantly more than did male subjects.

It is important to match counselee characteristics with counseling techniques. These experiments suggest that ethnic social modeling may be an important variable in counseling students concerning their vocational and educational futures. They also suggest that further investigations cannot ignore that the sex of the counselee and the medium of presentation play important roles in the effectiveness of counseling procedures. The specific strategies for using ethnic social models must be further explored and additional studies must be conducted to define the relationships between the counselee characteristics and counseling modeling techniques presented.

Even though the two filmed ethnic model presentations in Study B did elicit differential effects, it is felt that such results would have been even more pronounced had the characteristics of the ethnic models in the two films been more definitively differentiated. Future research in this area should attempt a more rigorous comparison of the effects of experimentally varied model characteristics, especially social status, sex and ethnicity. In addition, future studies must focus on design and procedure problems which confounded both studies reported here. These issues concern the need for larger numbers of subjects in each cell of the experimental design and greater control of the confounding effects produced by student absenteeism.

APPENDIX A

A RANDOM ORDER OF TWENTY-FOUR SEQUENCES OF FOUR EXPERIMENTAL CONDITIONS TAKEN FOUR AT A TIME

1.	4	1	2	3
2.	3	4	2	1
3.	2	4	3	1
4.	3	1	4	2
5.	2	4	3	1
6.	1	2	3	4
7.	2	1	3	4
8.	4	2	3	1
9.	2	3	1	4
10.	4	2	1	3
11.	1	4	2	3
12.	3	2	4	1
13.	3	2	1	4
14.	1	4	3	2
15.	2	3	4	1
16.	2	1	4	3
17.	4	3	1	2
18.	4	1	3	2
19.	4	3	2	1
20.	1	2	3	4
21.	1	3	2	4
22.	3	4	1	2
23.	1	3	4	2
24.	3	1	2	4

APPENDIX B

Name: _____

Age:_____ Sex:_____ Period:____

OCCUPATIONAL INTEREST INVENTORY

People have various amounts of interest in different occupations. In the following list there are 18 occupations. Place the number "1" by that occupation which is most interesting to you. Place the number "2" by the occupation which is next most interesting. In this way place a number by all the 18 different occupations until you have used all the numbers between "1" and "18." Work as rapidly as you can.

Auto Mechanics ____

Printing ____

Health Services ____

Welding ____

Food Preparation ____

Metals Technician ____

Commercial Art ____

Dry Cleaning ____

Sheet Metal and Plastics ____

Aerospace Fabrication ____

Electricity ____

Painting and Decorating ____

Electronics ____

Construction Technology ____

Electro-Mechanical ____

Coating Technology ____

Auto Body ____

Machine Shop ____

APPENDIX C

NAME: _____

AGE: _____ SEX: _____ PERIOD: ____

VOCATIONAL EDUCATION ATTITUDE QUESTIONNAIRE*

This inventory contains statements concerning attitudes toward vocational education. Read each statement carefully, then state whether you "Agree Strongly," "Agree Slightly," "Disagree Slightly," or "Disagree Strongly" with the statement.

Respond to each statement by placing a check mark in the column you choose. Your first impression is the most valuable.

Begin now.

	Agree Strongly	Agree Slightly	Disagree Slightly	Disagree Strongly
1. Society needs graduates of vocational education programs.	4	3	2	1
2. Vocational education graduates find jobs soon after graudation.	4	3	2	1
3. Up-to-date equipment is used in vocational education courses.	4	3	2	1
4. Courses in vocational education cannot be used in college entrance.	1	2	3	4
5. Vocational education courses can lead to less time in an apprentice-ship program.	1	2	3	4
6. The skilled trades, e.g., machinist, carpenter and plumber are not challenging.	1	2	3	4
7. Vocational education graduates make more money than do other high school graduates.	4	3	2	1
8. There will always be a need for the skills taught in vocational education.	4	3	2	1
9. Vocational education graduates do not become leaders of other workers.	1	2	3	4
10. Skills taught in vocational education do not lead to a variety in work.	1	2	3	4
11. The social skills taught during vocational education programs will not help later on the job.	1	2	3	4

*Coded for scoring

	Agree Strongly	Agree Slightly	Disagree Slightly	Disagree Strongly
12. People in the skilled trades work shorter hours than do most people.	4	3	2	1
13. Vocational education graduates do not get jobs that have good "benefits."	1	2	3	4
14. Vocational education programs do not place a strong emphasis on safety-on-the job.	1	2	3	4
15. Knowing a vocational education teacher will help you get a job.	4	3	2	1
16. A person needs special skills to graduate from a vocational education program.	4	3	2	1
17. Vocation education students are not well-respected.	1	2	3	4
18. The skilled trades need people who can offer new ideas.	4	3	2	1
19. Grades are not easier to get in vocational education courses.	4	3	2	1
20. Vocational education courses are not related to jobs after graduation.	1	2	3	4

Name _____

Sex _____ Age _____

APPENDIX D

THE PROJECT TALENT INTEREST INVENTORY*

*items selected for scoring.

INSTRUCTIONS

This inventory contains items for you to answer about occupations you would like and things you would like to do.

For each item, assume that you would have any necessary training or education that would be required. Disregard salary, social standing, job security, etc. In fact, do not think of anything except how well you would like to do the work or the activity.

Your answer does <u>not</u> mean that you plan to go into an occupation if you say you would like it -- only that it involves the kind of activity you think you would enjoy.

Begin now.

Section I OCCUPATIONS

Directions: For each occupation listed below you are to consider whether or not you would like that kind of work. Work quickly. Your first impression is the most valuable. Be sure to answer all of the items.

Mark your answers as follows:

A. I would like this very much.

B. I would like this fairly well.

C. Undecided or don't know much about it.

D. I would dislike this a little.

E. I would dislike this very much.

Use only the capital letters (A, B, C, D, or E) to represent your answer to each item.

Mark your answers as follows: (Use only the capital letters (A, B, C, D, or E).

A. I would like this very much.
B. I would like this fairly well.
C. Undecided or don't know much about it.
D. I would dislike this a little.
E. I would dislike this very much.

Occupations	Your Answer
1. Bookkeeper	
2. Bank teller	
3. Surgeon	
4. Chemist	
5. Civil engineer	*
6. Dentist	
7. Toolmaker	
8. Automobile mechanic	
9. Butcher	
10. Tailor or dressmaker	
11. Dietitian	*
12. Cab driver	
13. Longshoreman	
14. Foreman	
15. Army officer	
16. College president	
17. Insurance agent	
18. Stock salesman	
19. Foreign correspondent	
20. Editor	
21. Musician	
22. Aviator	
23. Rancher	
24. Airline hostess or steward	
25. Social worker	
26. Statistician	
27. Astronomer	
28. Research scientist	
29. Office clerk	
30. Store clerk	
31. Plumber	
32. Electrician	
33. Fireman	
34. Dish washer	
35. Maid	
36. Naval offier	
37. Personnel administrator	
38. Credit manager	
39. Lawyer	
40. Reporter	
41. Sculptor	
42. Forester	
43. Elementary school teacher	
44. Nurse	*
45. Chemical engineer	
46. Doctor	
47. Pharmacist	
48. Aeronautical engineer	
49. Secretary	
50. Technician	*
51. Electroncis technician	
52. Bricklayer	
53. Riveter	
54. House painter	
55. Mail carrier	
56. Building superintendent	
57. President of a large company	
58. Author of a novel	
59. Librarian	
60. Economist	
61. Actor or actress	
62. Professional athlete	
63. Policeman	
64. Clergyman	
65. Certified Public Accountant	
66. Spaceman	
67. Biologist	
68. Electrical engineer	
69. Mining engineer	
70. Typist	
71. Laboratory technician	*
72. Repairman	
73. Beautician	
74. Railroad brakeman	
75. Shoemaker	
76. Factory worker	*
77. Deliveryman	
78. Truck driver	
79. Building contractor	*
80. Marine Corps officer	
81. Real estate agent	
82. Interpreter	
83. Writer	
84. Musical composer	
85. Architect	
86. Decorator	
87. Sports umpire or referee	
88. Guidance counselor	
90. Mechanical engineer	
91. Mathematician	
92. Switchboard operator	
93. Machinist	
94. Welder	
95. Paper hander	
96. Carpenter	*
97. Type setter	
98. Draftsman	*
99. Housewife	
100. Air Force officer	
101. Office manager	
102. Banker	
103. Salesman	
104. College professor	
105. Poet	
106. Artist	
107. Designer	
108. Farmer	
109. High school teacher	
110. Religious worker	
111. School principal	
112. Psychologist	
113. Member of President's Cabinet	
114. Judge	
115. U.S. Senator	
116. Politician	
117. U.S. Congressman	
118. Mayor	
119. President of the United States	
120. Vice-President of the United States	
121. State Governor	
122. Public administrator	

Section II ACTIVITIES

Directions: Indicate as in Section I how much you like or would like each of the following activities

Once again, be sure to answer all of the items.

Mark your answers as follows:

A. I would like this very much.

B. I would like this fairly well.

C. Undecided or don't know much about it.

D. I would dislike this a little.

E. I would dislike this very much.

Use only the capital letters (A, B, C, D, or E) to represent your answer to each item.

Mark your answers as follows: (Use only the capital letters (A, B, C, D, or E)

A. I would like this very much.
B. I would like this fairly well.
C. Undecided or don't know much about it.
D. I would dislike this a little.
E. I would dislike this very much.

Activities	Your Answer
123. Take care of members of family	
124. Make out income tax returns	
125. Biology	
126. Physics	
127. Study muscles and nerves	
128. Calculus	
129. Keep records for a store	
130. Invent new tools	
131. Fix furniture	
132. Work on an automobile assembly line	
133. Wash and iron colthes	
134. Plan work for other people	
135. Own your own business	
136. Reading	
137. Sociology	
138. Fishing	
139. Basketball	
140. Tennis	
141. Raise sheep or cattle for market	
142. Help your parents	
143. Work arithmetic problems	
144. Prepare cost estimates	
145. Fortune telling	
146. Typewriting	
147. Make a radio set	
148. Fix a clock	
149. Operate a power machine	*
150. Fire a person	
151. Manage a large store	
152. Save money	
153. Work for myself	
154. Write letters	
155. Practice music all day	
156. Art galleries	
157. Football	
158. Track	
159. Operate farm machinery	
160. Operate a calculating machine	
161. Physiology	
162. Chemistry	
163. Play chess	
164. Solve puzzles	
165. Do clerical work	
166. Repair an auto	
167. Operate a crane or derrick	

Activities	Your Answer
168. Work in a steel mill	
169. Hire a person	
170. Give orders to workers in a factory	
171. Buy stocks	
172. Sell furniture	
173. Watch T.V.	
174. Act in plays	
175. Trap wild animals	
176. Foreign language	
177. Teach children	
178. Help the poor	
179. Keep accounts	
180. Algebra	
181. Learn about diseases	*
182. Become a millionaire	
183. Sell merchandise to stores	
184. Literature	
185. Write themes	
186. Go to school	
187. Symphony concerts	
188. Hunting	
189. Swimming	
190. Feed hogs and cattle	
191. Sell tickets for a railroad or airline	
192. Shop work	*
193. Do odd jobs with small tools	*
194. Direct people	
195. Arrange a strike settlement with management	
196. Invest money	
197. Poetry	
198. Plan an instrument	
199. Studying	
200. Visit museums	
201. Exploring	
202. Military drill	
203. Baseball	
204. Gardening	
205. Campaign for political office	

APPENDIX E

Print Name _____
(Last, First)

Date _____ Sex _____ Period ___
(M or F)

GETTING READY FOR CAREERS - STUDENT BOOKLET

This booklet goes along with a presentation on "Getting Ready for Careers." In this booklet, you will find questions on Construction Technology, Health Services, Sheet Metal and Coating Technology. The first section has to do with Construction Technology.

There will be four parts to the presentation on Construction Technology. Before each part you will be asked three questions. Try your best to answer each question

WAIT UNTIL YOU ARE TOLD TO START

1. The courses in Construction Technology give the student background for a number of different occupations.

No Yes

2. A person should plan to make many decisions on where he wants to work and under what conditions he wants to work.

Yes No

3. The courses in Construction Technology teach only the use of tools required in the construction occupations.

Yes No

WAIT UNTIL YOU ARE TOLD TO GO ON TO THE NEXT PAGE

1. When a person is using a circular saw, the best clothes to wear are long-sleeved shirts.

   Yes ____ No ____

2. When planning to choose a training program, you should consider only your abilities and interests.

   No ____ Yes ____

3. When a student asks for a job, employers look only at the student's grades.

   No ____ Yes ____

WAIT UNTIL YOU ARE TOLD TO GO

ON TO THE NEXT PAGE

1. An apprentice gets less than half as much money per hour as does a journeyman.

   Yes ____ No ____

2. Reading about an occupational area is the only way to get information about the occupations in that area.

   Yes ____ No ____

3. A belt sander is usually left lying on its side.

   No ____ Yes ____

WAIT UNTIL YOU ARE TOLD TO GO ON TO THE NEXT PAGE

1. The drafting occupations and Construction Technology have no relation to each other.

No Yes

2. A graduate from the Vocational Center can enroll at a junior college.

No Yes

3. A graduate from Construction Technology courses could work as a civil engineering aide.

Yes No

WAIT UNTIL YOU ARE TOLD TO GO ON TO THE NEXT PAGE

1. One good source of information about an occupation is a neighbor who works in that area.

   No Yes

2. When a student wants information on an occupation, he or she could write to a professional association or go to the library.

   Yes No

3. The courses in Health Services give the student background for a number of different occupations.

   Yes No

WAIT UNTIL YOU ARE TOLD TO GO

ON TO THE NEXT PAGE

1. The courses at the Vocational Center are planned by only the teachers.

Yes ____ No ____

2. The results from interest and ability tests could be helpful to a student who is making a career planning decision.

Yes ____ No ____

3. You don't have to consider personal qualities and abilities when making a decision about a career.

No ____ Yes ____

WAIT UNTIL YOU ARE TOLD TO GO

ON TO THE NEXT PAGE

1. A visit to a person already working in the occupation is one way to learn about their work.

   ___ No ___ Yes

2. Sterile dressings such as cotton and gauze have two uses.

   ___ Yes ___ No

3. A person can point the forceps upward when he or she is preparing a sterile tray.

   ___ Yes ___ No

WAIT UNTIL YOU ARE TOLD TO GO

ON TO THE NEXT PAGE

1. The Health Services courses at the Vocational Center can prepare the student only for work in a doctor's office.

   No Yes

2. A good way of predicting how successful you might be in a certain career would be to compare yourself with someone almost like you who works in that occupation.

   No Yes

3. A graduate of the Vocational Center could work as a rehabilitation aide.

   Yes No

WAIT UNTIL YOU ARE TOLD TO GO

ON TO THE NEXT PAGE

1. Riveting is usually done with certain gages or thicknesses of sheet metal.

   Yes ____ No ____

2. Spatial relations is the most important ability needed by a person who works in the sheet metal occupations.

   Yes ____ No ____

3. Because few people will be needed to work in the sheet metal occupations, the chances for security in that field are pretty low.

   No ____ Yes ____

WAIT UNTIL YOU ARE TOLD TO GO

ON TO THE NEXT PAGE

1. "Crimping" a piece of sheet metal serves no useful purpose.

   ___ No ___ Yes

2. The classroom work done at the Vocational Center could be related to what a person does on the job.

   ___ Yes ___ No

3. Employers and representatives of the unions work together to prepare the programs in the Sheet Metal courses at the Vocational Center.

   ___ Yes ___ No

WAIT UNTIL YOU ARE TOLD TO GO

ON TO THE NEXT PAGE

1. Counselors rarely have pamphlets and books about occupational areas.

   Yes ____ No ____

2. When a person is working, speed is the most important factor.

   No ____ Yes ____

3. Relatives who might be working in the occupation a person is interested in could give some helpful information about that type of work.

   Yes ____ No ____

WAIT UNTIL YOU ARE TOLD TO GO

ON TO THE NEXT PAGE

1. A person has to graduate from high school before he can become a Sheet Metal apprentice.

   ___ No ___ Yes

2. The Vocational Center does <u>not</u> prepare the student for an interview with the Joint Apprenticeship Committee.

   ___ Yes ___ No

3. When a person is working on something like a round ventilator, he can often decide between different ways for putting it together.

   ___ Yes ___ No

WAIT UNTIL YOU ARE TOLD TO GO ON TO THE NEXT PAGE

1. When a person works as a Coating Technologist, he often makes tests for adhesion.

   Yes No

2. When a student plans on taking the Coating Technology program at the Vocational Center, he should take ninth grade math and general science.

   No Yes

3. A student does not have to be very creative to work in a coating laboratory.

   Yes No

WAIT UNTIL YOU ARE TOLD TO GO ON TO THE NEXT PAGE

1. If a person valued neatness, this fact might influence whether or not he or she took Coating Technology courses at the Vocational Center.

   Yes ____ No ____

2. A few alternatives would be enough for a student to consider before making a decision about an occupation.

   No ____ Yes ____

3. Some professional societies set up special conferences and invite students.

   Yes ____ No ____

WAIT UNTIL YOU ARE TOLD TO GO

ON TO THE NEXT PAGE

1. An elongation test is a measure for adhesion.

   Yes ____ No ____

2. Most occupations have movies that a student may watch to find out about certain vocational areas.

   No ____ Yes ____

3. A person who works as a Coating Technologist often does the same thing over and over.

   Yes ____ No ____

WAIT UNTIL YOU ARE TOLD TO GO

ON TO THE NEXT PAGE

1. The Paint Industry Education Bureau is the only source of information about Coating Technology.

Yes ____ No ____

2. Local coating plants are anxious to hire graduates of the Coating Technology program at the Vocational Center.

No ____ Yes ____

3. Coating and paint shops usually give in-service training.

Yes ____ No ____

NOW WAIT UNTIL YOU ARE GIVEN FURTHER INSTRUCTIONS. THANK YOU.

APPENDIX F

GETTING READY FOR CAREERS - A SCRIPT

SETTING: A closed door of a counselor's office is in the foreground. Students are occasionally walking past the door. From inside the office the following discussion is heard.

STUDENT: I want to know where I can get trained for a job.

COUNSELOR: This is a good question. It is important to begin planning to look at various kinds of work. The chances are pretty good that five or ten years from now you will be spending almost half the time you are awake earning a living. (Pause) What kinds of work do you like? You can begin to answer this question by trying to answer these two questions: Do you like to work with people? Do you like to work on things such as machinery?

STUDENT: I don't know. I have some likes and dislikes. Nothing special.

COUNSELOR: How much responsibility do you want? What do you know about different occupations?

STUDENT: O.K. So I've got a lot to learn.

COUNSELOR: It isn't that bad. Learning about occupational areas can give you some freedom of choice. You don't have to stick with a particular job. You may choose within a group of related jobs.

STUDENT: Occupational areas? What do you mean by that?

COUNSELOR: Well ... let's see ... An occupational area is a family of jobs that share a common purpose. They have to do with the same product. For example, tell me what a toolmaker, an automobile mechanic and an electrician have in common.

STUDENT: An automobile mechanic? ... an electrician? and a toolmaker? Things. Working with things!

COUNSELOR: That's right. Let's try it again. What do a social worker, a nurse, and a clergyman have in common?

STUDENT: No problem. Working with people.

COUNSELOR: Right again! Let's say you wanted to "work with your hands." You thought you were pretty good with tools. Would you think about working with people or would you think about working on machines?

STUDENT: (Slowly, somewhat edgy) Working on cars?

COUNSELOR: What else?

STUDENT: (Slowly) Working on ... working on construction. Maybe sheet metal.

COUNSELOR: O.K. Let's suppose you like to "working with people." Would you choose an occupational area such as working in a hospital or ... um ... working as a laboratory technician.

STUDENT: With people? Oh ... working in a hospital ... maybe selling things.

COUNSELOR: Now you have two important ideas. Do you understand what they are?

STUDENT: Well ... one is the family of jobs thing.

COUNSELOR: Yes ... the occupational area. The other ...?

STUDENT: The other is to match the kind of work, the occupational area, with a possible interest or ability.

COUNSELOR: Right again! Let me get to your first question: Where do you go to school for this kind of training? The answer is especially important for you.

STUDENT: Yes. Maybe a school that is pretty closely related to work.

COUNSELOR: You are on the right track. There are centers for training in particular occupational areas. These centers have three purposes. The first purpose is to teach the student how to perform the particular set of skills that is common to the occupational area.

STUDENT: That is why you were talking about occupational areas.

COUNSELOR: Yes. The second purpose is to let the student become familiar with the terms used in the occupational area ... The third purpose is to teach the student how to be a worker.

STUDENT: What do you mean, "How to be a worker"? All you have to do is know the skill.

COUNSELOR: It isn't that simple. The Vocational Centers try to teach you how to fill out forms, how to ask questions, how to talk to your superiors, how to plan on considering jobs and how to talk in an interview ...

In the next few minutes we will look at four different occupational areas that will be taught at Vocational Centers. Some of these occupations will be coeducational.

STUDENT: Coeducation!?

COUNSELOR: That's right. The Center will offer coeducational training programs in certain occupational areas.

Every once in a while I will tell you to read and answer the questions in the Student Booklet which is in front of you. Do you see "Getting Ready for Careers - Student Booklet"?

STUDENT: What will be the first occupational area?

COUNSELOR: Construction Technology. Now read the cover of the booklet and answer the questions on the first page.

STUDENT: Answer the questions on the first page?

COUNSELOR: Yes. Go ahead.

Now turn to PART ONE of Construction Technology in "Getting Ready for Careers - Student Booklet" and answer the three questions. Answer them as rapdily as you can.

CONSTRUCTION TECHNOLOGY SCRIPT - PART ONE

SETTING: A male student and his teacher are standing near a workbench. Laid out in front of them are some drawings. A circular saw and an electric sander are visible in the background.

TEACHER: We have been asked to fabricate eight cabinets. Here are the drawings. Let's see ... (Consults a list) ... Your particular assignment is this top piece. Other students will be cutting and preparing the sides, doors, back and legs. (Teacher points toward each part as he mentions them.)

STUDENT: (Nods)

TEACHER: When the parts have been cut to these specifications, we will get together and decide who will assemble the cabinet.

STUDENT: I see they want pine for the sides and doors and 3/4" fir plywood for the top. That will be a good looking cabinet.

TEACHER: Yes, it will be. We will also have to finish all the visible areas after fabrication.

STUDENT: I'll get the dimensions. (Student copies down the figures from the drawing.)

TEACHER: Be sure you read the specifications before you start any cutting.

STUDENT: Yes, sir. (Pause) I read that book you gave me.

TEACHER: Oh ... the book? You mean the Dictionary of Occupational Titles.

STUDENT: Well ... put it like this. I looked at all the titles. There are a lot in construction technology.

TEACHER: Yes, there are. What you are doing here -- reading plans and cutting materials to specifications are pretty common to all of them.

STUDENT: I got that idea. I'll have many more decisions to make before I really start to work.

TEACHER: As a matter of fact throughout your working life you will have decisions about where you work and under what conditions you will work. It is important now to learn how to make good decisions.

STUDENT: My counselor and I were talking about just that ... making good decisions.

TEACHER: Everybody who works has a responsibility to plan on whatever he does.

STUDENT: Well ... I am pretty certain about a couple of things.

TEACHER: Yes?

STUDENT: I want to learn how to be a craftsman.

TEACHER: That's the idea. Each worker can be a craftsman in whatever he does. At the Center we can train people in the fundamentals of being skilled. This isn't just how to work in the construction technologies, but in how to be a worker.

STUDENT: You mean things like talking with a boss or filling out forms.

TEACHER: (Smiling) Yes.

STUDENT: There. I have copied the dimensions. (Student shows the teacher a piece of paper)

TEACHER: (Looks at the paper)

F A D E

COUNSELOR: Now turn to Part Two of Construction Technology and answer the three questions. Answer them as rapidly as you can.

SETTING: In the background is a bench with the drawings laid out on it. The student and his teacher are standing near the circular saw. The student has a rough cut board in his hand.

TEACHER: Let's see. Do you remember one of the first safety precautions with a circular saw?

STUDENT: (The student looks at himself. Smiles apologetically and rolls up his sleeves.) My sleeves.

TEACHER: That's right. A piece of clothing could get caught in the saw and that would be it for your arm!

STUDENT: (Laughs) I don't want that to happen. (Pause) I was reading the paper ... in the Sunday section.

TEACHER: What was there?

STUDENT: There was a big article on the need for people in Construction Technology.

TEACHER: Another student told me about it. One important point in the article was the idea that you can plan to work for the entire year. You have to choose between those occupations that are limited to good weather and those which are year around.

STUDENT: My counselor and I talked about that. I am not sure what I want right now.

TEACHER: You mean it is a question of high pay work that lasts for a short time and some fairly steady work that might not pay as much.

STUDENT: Yes. That's what I mean ... My ability tests say that I am pretty good with my hands.

TEACHER: What about your interests?

STUDENT: Well ... I want to work outdoors.

TEACHER: It sounds like you can begin to put these ideas together. You can match your wants with your abilities. When you see how they fit, you can list your strengths and weaknesses.

STUDENT: Strengths? ... hun? ... Well I am pretty good with my hands.

TEACHER: What else?

STUDENT: Arithmetic? ... I am O.K. ... not the greatest!

TEACHER: That's the idea on listing your strengths. You can do the same with your weaknesses. It might be a little harder to list them. Try to do it, 'though. (Pause) What about your attendance? (Looks over his glasses at the student)

STUDENT: (Slightly embarrassed) Yeah. (Shakes his head in the negative)

TEACHER: Employers look at things like attendance records. It's the old idea "What you do at school, you will do at work."

STUDENT: I know. I've been trying.

TEACHER: That's true. In the last few months your attendance has improved.

STUDENT: (Looks down and then aside before facing the teacher) I am beginning to like school.

F A D E

COUNSELOR: Now turn to Part Three of Construction Technology in the Student Booklet and answer the three questions. Answer them as rapidly as you can.

SETTING: A pile of boards are on the workbench. An electrical sander is next to the pile of boards. The student and teacher are talking.

TEACHER: When you use an electric sander arrange the cord so it cannot be caught by the abrasive belt. One way to do this is hang the code over your shoulder. Like this. (Demonstrates on himself)

STUDENT: (Looks at the cord and nods affirmatively)

TEACHER: Keep the cord free and prevent it from being drawn between the abrasive belt and the housing. (Pause) When you are through lay the belt sander on its side. (Teacher demonstrates)

STUDENT: Yes, sir. (Student starts to pick up the sander) I did go to the library. They had a folder on the apprenticeship programs. One thing that surprised me ...

TEACHER: What was that?

STUDENT: The pay. It's almost always 50% of what a journeyman earns.

TEACHER: When you read that figure don't forget that journeymen earn different rates in different parts of the country. Did you read about the requirements for becoming an apprentice?

STUDENT: Yes, I did. Many of the courses here at the Center will help me in Construction Technology.

TEACHER: Well ... one place to write for further information is the Division of Apprenticeship Standards at the Capitol. I'll get you the address before you leave today.

STUDENT: Thanks. (Student puts the sander down on its belt) Oops!

TEACHER: Do you have the best belt in there?

STUDENT: Yes sir ... It is the "One-ought" belt. I am doing the smoothing now.

TEACHER: O.K. ... One more thing before you get started. Have you had a chance to talk with your neighbor yet?

STUDENT: You mean the man who works for the State?

TEACHER: (Nods in agreement)

STUDENT: Not yet. I am going to try and see him tonight.

F A D E

COUNSELOR: Now turn to Part Four of Construction Technology (in the Student Booklet) and answer the three questions. Answer them as rapidly as you can.

SETTING: The student has a pile of boards beside him. On very close count it is possible to see that he has cut all eight pieces. The plans are in front of the student and he is comparing the drawings with the boards. The teacher approaches from the left.

STUDENT: I went over to the junior college. I walked around for a while and talked with my friends.

TEACHER: You just walked and talked?

STUDENT: Well ... No. I tried to find the Drafting Department.

TEACHER: Drafting Department? How did that happen? What made you think of drafting?

STUDENT: One of my friends at the college graduated from the Vocational Center. He was taking some drafting courses.

TEACHER: (Happy that the student visited the junior college) That happens ... The courses in Construction Technology can help a person go in many different directions. Have you thought about any courses of action?

STUDENT: That's what I was thinking about.

TEACHER: I thought you wanted to work outdoors.

STUDENT: I do and that is part of my problem.

TEACHER: Let's think about that. You want to work in drafting?

STUDENT: Right.

TEACHER: You also want to work outdoors.

STUDENT: (Nods in agreement)

TEACHER: (Pauses as if to think some more) Have you ever seen highway survey crews?

STUDENT: (Hesitantly) Yes ... they are making maps.

TEACHER: That's part of their work. They check on road construction. They plan on drainage lines. Some crews work for the State or County. Other teams are working for private civil engineers.

STUDENT: I never thought of that.

TEACHER: When the class is over, go to the library and find the materials on the civil engineering aides.

STUDENT: That gives me a couple of choices for my plans. I can go into an apprenticeship program or I can go to the junior college.

TEACHER: (Laughing) That's getting a little ahead of yourself. How are you doing on the tops of the cabinet?

STUDENT: (Smiling) Fine. I am still going to write to the State and ask about ... What did you call it?

TEACHER: Civil engineering aide.

STUDENT: I have smoothed the edges and sanded the surfaces. I think I have finished them.

TEACHER: They look good. Let me check one of them. (Measures edge) This piece certainly looks like one that an employer would be satisfied with.

F A D E

COUNSELOR: Now turn to Part One of Health Services and answer the three questions. Answer them as rapidly as you can.

HEALTH SERVICES SCRIPT - PART ONE

SETTING: A boy and a girl in a health services laboratory are watching a teacher make the final touches on a dressing tray. A number of towels and dressings have been neatly folded in muslin covers on a sterile tray. Adhesive tape and antiseptic bottles are in place. Sterile forceps are standing in a jar of disinfectant.

TEACHER: It is important to keep each one of these pieces perfectly sterile. Any chance of infecting the patient must be prevented. (Pause. Turn to girl) This dressing tray will be the model for your work. I will have it prepared at the beginning of each class. Your assignment is to prepare your own sterile dressing tray.

GIRL: O.K. Do we start now?

TEACHER: Yes. Here are your trays. Make sure they are sterile.

GIRL: I did not realize when I started Health Services that I would be doing this.

TEACHER: Learning sterile technique and preparing dressing trays are common to a number of different kinds of occupations within the Health Services area. Of course, nursing is the most obvious kind of Health Service, but there are many others.

GIRL: I had thought about nursing for a while. I had read one of the pamphlets on nursing and had become very interested.

TEACHER: Reading about nursing is one way to find out about the work. There are other kinds of work in Health Services. For example, many medical centers and doctor's offices require Medical Assistants. Do you know anything about this kind of work?

GIRL: A neighbor works in a doctor's office. I could ask her and find out if she is a medical assistant.

TEACHER: That's a good idea. Asking a neighbor who already works in a particular occupation is a good way to find out about it.

GIRL: (Removes the dressing tray and supplies from a supply cabinet)

TEACHER: That's right. What do you do next?

BOY: (A dressing tray is already in front of boy. He looks at teacher)

GIRL: I guess I had better open the tray first.

BOY: (Nods in agreement)

TEACHER: Fine. Can you think of any other kinds of work that might be in the Health Services?

BOY: Physical Therapy. I wrote to the American Physical Therapy Association in Washington to get some information. I did it for a Social Studies class.

TEACHER: Writing to professional associations and using the local library materials are two ways to get information on an occupation. Have you seen any moves on the Health Services kinds of work?

GIRL: I saw a movie on rehabilitation with nurses, therapists, and aides taking care of patients. They seem to work together as a team and help the patients.

TEACHER: An interesting point about all these occupations is that each one of these kinds of work has something to do with carrying out sterile procedures such as in preparing dressing trays.

GIRL: We forgot somebody. Whenever I go to the dentist his receptionist does a lot of work. Once I had dental work and she prepared a tray similar to this one!

F A D E

COUNSELOR: Now turn to Part Two of Health Services in the Student Booklet and answer the three questions. Answer them as rapidly as you can.

SETTING: Boy and girl student are carefully placing the doctor's sterile gloves on the dressing tray. Boy and girl are talking as the instructor approaches.

TEACHER: Did you ever get to talk with your neighbor? The one who worked in a doctor's office?

GIRL: Yes, I did. My neighbor is a Medical Assistant. When I told her I was taking the Health Services program at the Vocational Center she asked me about it.

TEACHER: (Nods in agreement) What did she think about it?

GIRL: She had heard about it. One of my neighbor's friends is on the Advisory Council that has been working with the school.

TEACHER: I meet with the Council about one time a month. We discuss topics such as the changes in procedures and the need for more medical assistants.

GIRL: Could I come to a meeting?

BOY: (Looks up and is about ready to speak)

TEACHER: No. The meetings do not include students, but we are having an open house next month. Maybe you would like to come? I thought, 'though, that you were interested in nursing (Smiles).

BOY: She does not like the night hours!

TEACHER: How do you know about the hours a nurse works?

BOY: I had a talk with my counselor about hospital work. He gave me a large book ... The Occupations Outlook something ...

TEACHER: It might have been the <u>Occupational Outlook Handbook</u>. The <u>Health Service Careers</u> book put out by the Department of H.E.W. has some good descriptions of the Health Services occupations.

BOY: Yes. I am going to take some more tests. These will be interest tests. Maybe I can use their results and begin to put some ideas together.

TEACHER: (To the girl) You are doing a good job of preparing your trays. Be careful and make sure the dressings and instruments stay sterile. (Turns to boy) Yes. You were putting some ideas together...

BOY: I was ... I am beginning to be able to do some of the work in Health Services. I want now some help in making a decision about what branch of Health Services.

GIRL: The tests won't give you any answers. They won't tell you where to work (Exasperated).

BOY: I know. But, they will give me some ideas on how to match my abilities with my interests.

GIRL: My counselor says that you need more than just abilities and interests. You have to include personal qualities and values in making a decision.

TEACHER: She is on the right track. A person has to make plans on where they go to school and on where they work. A person's strengths and weaknesses influence the plans. A person has a better chance of success if he bases most of his educational plans on his strengths and if he considers his weaknesses.

BOY: I know one of my weaknesses. It is getting to school on time.

GIRL: (Looks at the boy and begins to laugh, quietly)

TEACHER: (Nodding) What you do in school very often carries over to what you do on the job.

BOY: Oops! I let the sterile medicine glass touch the table.

GIRL: And the table is not sterile.

BOY: I'll have to sterilize that glass before I can use it again.

F A D E

COUNSELOR: Now turn to Part Three in the Student Booklet and answer the three questions. Answer them as rapidly as you can.

SETTING: The completed dressing tray is on camera. Then the focus points to the two trays. In each tray are neatly placed dressings. Adhesive tape in several widths is visible and a bottle of antiseptic is placed near the tray.

BOY: Have you looked at the Health Services Career book yet?

GIRL: Yes, I started to read the Occupational Outlook Handbook. It is so big! A person has to be selective in what they read. My friend, the Medical Assistant, has invited me to spend part of a day with her at work.

TEACHER: (Approaches from left) Did I hear you say that you were going to visit somebody on the job?

GIRL: Yes. The woman who works as a medical assistant has invited me to spend a day with her.

TEACHER: Watching a person on the job and talking to them about the work is a good way to learn about the occupation. Have you planned on taking a day off from school?

GIRL: I'll have to talk with my counselor about that. Maybe the best time will be after midterms.

TEACHER: (Looks at the dressing trays) Let's take a look at what you are doing. You will remember how important it is to keep all the equipment on the dressing tray perfectly sterile. Many of the pieces of gauze and cotton swabs will be placed next to the wound. No person working with an open wound wants the patient to become infected.

GIRL: (Looking at the boy)

TEACHER: What are some of the uses of these dressings?

GIRL: Usually the dressings are used to absorb the drainage coming from the wound.

TEACHER: That is right.

GIRL: Absorbent dressings are used to absorb moderately draining fluids.

BOY: (Nodding and faces the teacher)

TEACHER: (Turns toward boy) What about the gauzes?

BOY: Gauze is available in different shapes for different uses.

TEACHER: Do you know what some of the uses of gauze are?

BOY: First, gauze can be used to absorb the discharge from the wounds ...

GIRL: Second, it acts ...

TEACHER: Wait a minute. Let him answer. He will have to use the dressing tray in whatever Health Service occupation he enters. (Smiles at boy)

BOY: It acts as a medium to hold ointments and third ... Third, it covers wounds! (Looks at girl and pouts slightly)

TEACHER: Very good. Both of you seem to know the uses of materials on the dressing tray. How are you doing on sterilizing the forceps? (Both students return to their respective trays.) Since this instrument is used most frequently to pick up instruments and arrange sterile material on the tray, it is important that the forceps be kept sterile. Do not let the points touch anything except the disinfectant in the jar. Remember the tips are always pointed downward.

GIRL: (Picks up the forceps and points the tips upward. A fluid runs down the tines and the girl shakes her hand.) Oh ... I see ...

F A D E

COUNSELOR: Now turn to Part Four on Health Services and answer the three questions. Answer them as rapidly as you can.

SETTING: Both students are wearing surgical clothing. They are carefully putting finishing touches on the dressing trays. Extra forceps, which have been dropped, are next to the tray. The boy is putting a forcep into the disinfectant bottle. The girl and teacher are watching.

GIRL: After I complete my training at the Center, I shall have several alternative courses of action.

BOY: Listen to her (Somewhat sarcastic)

TEACHER: Go on. What are your alternatives?

GIRL: Well. First, I could go directly to work. My training at the Vocational Center will qualify me for work in a doctor's office. I shall be able to do many of the things a medical assistant has to do. However, a person who has completed junior college training program for medical assistants has a better chance of getting hired.

BOY: They can also ask for more pay.

TEACHER: Both of you are correct. However, have you (Looking at the girl) ever tried to list your chances of success beside each course of action? Each thing you want to do?

GIRL: I have started to do that. I am ... I really don't know how to do it.

BOY: One way is to think of someone who is almost like you. You know ... same grades ...

GIRL: Same school activities ...

BOY: Yeah... ah ... same interests. And then compare yourself with them.

TEACHER: That is pretty hard to do isn't it?

GIRL: It is. I have tried it. I even went to the counselor's office to find out about other people. My counselor gave me some names of people who graduated a few years ago. I am going to talk with them.

TEACHER: The important part to remember here is how are you different from them ... as well as how are you similar to them.

BOY: I have been reading about rehabilitation aides. Last week I visited a Rehabilitation Center. I found out I could work part time while I was going to junior college. You see ... I'll need money to support me. My training here at the Center will prepare me for the Rehabilitation Aide's job.

TEACHER: Yes, and in junior college you can continue to make decisions about your choices of occupations. It is important to look at yourself; to see your strengths and weaknesses; to use what you know of your different abilities; to list some courses of action; and, to use all these things in making decisions about your educational and occupational plans.

GIRL: There. I finally got my dressing tray to look like the one you prepared.

TEACHER: Let me look.

BOY: Mine is ready too. I have dropped those forceps and boiled them enough times (Shakes head)

TEACHER: Yes. You do have dressings, towels, gloves, medicine glasses in place. (Teacher is looking at both trays. Camera focuses on the trays. Teacher is in a position to point at all three trays.)

BOY: (Smiles)

GIRL: (Nods and looks at the boy)

TEACHER: You have the necessary articles. The adhesive tape is handy. Yes. A doctor would be very satisfied with the dressing trays prepared by you two.

F A D E

COUNSELOR: Now turn to Part One of Sheet Metal and answer the three questions. Answer them as rapidly as you can.

SHEET METAL SCRIPT - PART ONE

SETTING: A male student and teacher are standing or either side of a long workbench. Between them is a set of plans.

TEACHER: Before you begin work on this round ventilator you must check certain points on the drawing. These dimensions on the print should be verified with the special places (teacher points). Here is the list of requirements for fabrication. What gage sheet metal will you use?

STUDENT: Let me see ... Oh ... 24 gage galvanized steel.

TEACHER: That's right. This thickness has been specified for a particular reason. Do you see in the notes the reference to riveting?

STUDENT: Yes, sir. The rivets are placed at these points (student points). Here ... here and there.

TEACHER: Yes. Before you form the pattern check to see they are correct.

STUDENT: (Reads and compares patterns with the dimensions)

TEACHER: (Watches the student)

STUDENT: (Looking up at the teacher) The TV program last night was interesting.

TEACHER: Oh, you saw it. I was especially glad they showed the wide variety of work done in the Sheet Metal trade.

STUDENT: I didn't realize there were so many fields in the Sheet Metal program. (Pause) When I talked with my counselor, we spent some time on my ability scores.

TEACHER: You mean the manual dexterity? (teacher manipulates his fingers to suggest dexterity)

STUDENT: Yes. I guess I had done pretty well on the spatial relations test, too.

TEACHER: When a sheet metal worker begins fabrication, he has an advantage if he can see what each separate piece will look like. For example, can you visualize how this piece will look when its finished?

STUDENT: (Pointing) It will be rolled to form a cone.

TEACHER: That's right. In the TV program one of the important points was the long range demand for workers in the sheet metal occupations.

STUDENT: Well, one of the things I am looking for is a well paying job. If I am trained in work that will be needed in the future, I'll have a better chance of being secure.

TEACHER: (Somewhat surprised) Oh. You value security?

STUDENT: I sure do.

TEACHER: In other words, the possible security of working in the sheet metal occupations affected your decision to enroll at the Vocational Center? Was that the only thing?

STUDENT: (Smiling) No. My test results .. interests and especially the manual dexterity aptitude test had something to do with it.

TEACHER: Oh ... Then values and abilities ...

STUDENT: Yes. And then some of my relatives have worked in sheet metal.

TEACHER: What you are saying is many different things influenced your decision.

F A D E

COUNSELOR: Now turn to Part Two of Sheet Metal and answer the three questions. Answer them as rapidly as you can.

SETTING: The student and teacher have placed the drawings on one side of the bench. The teacher has a ruler and marking pen. He is showing the student how to cut the pieces of sheet metal.

TEACHER: It is important to make sure that the dimensions of the sheet metal are exactly what is called for in the specifications. When your layout is not correct, you will waste materials. An employer won't keep you around long if you waste time and his materials.

STUDENT: I get the point. (Pause while the student watches the teacher) You are preparing the side bracket. (Student points)

TEACHER: That's right. Do you see where they fit into the rounded pipe (points) and onto the top with the crimped edge?

STUDENT: Crimped?

TEACHER: Yes. This design is called crimping. It makes the top look neater and stronger.

STUDENT: (Steps back slightly and faces the teacher) I was talking with a cousin about his work. He said he was in the sheet metal trades.

TEACHER: Did he tell you what he did?

STUDENT: He said something about cutting out pieces for fabrication. I guess it is like what we are doing here.

TEACHER: (Nods) Probably. Each different process we teach you here has to do with something you will do on the job. Cutting out pieces is only one of the many special skills. You see ... even these round ventilators are specially fabricated on the job. (Pause)

STUDENT: (Student is drawing some special lines on the sheet stock) Ooops ... what do I do when I make the wrong line?

TEACHER: Where ... Oh. Use a wavey line. Like this (teacher motions with his hand). Then draw the correct line.

STUDENT: (Makes some wavey lines. Then draws another straight line) My cousin asked me about the Vocational Center.

TEACHER: Oh. What did you tell him?

STUDENT: I told him about this round ventilator. He said that he learned about it in the apprenticeship program. I guess I am ahead of my cousin.

TEACHER: Ahead? Oh ... not bad. You mean you are learning how to do things in school that he had to learn on the job?

STUDENT: Yeah. That's right. It made me feel pretty good.

TEACHER: One reason why our program is getting the students prepared for the apprenticeship programs is that we have meetings with employers and representatives of the unions. We try to make the program here at the Center as efficient as possible

F A D E

COUNSELOR: Now turn to Part Three of Sheet Metal and answer the three questions. Answer them as rapidly as you can.

SETTING: Teacher and student are talking about forming techniques. The teacher refers from the drawings to the cut pieces of metal.

TEACHER: The plans call for grooving along here. That means you'll need a special tool.

STUDENT: Yes, sir. I have it here. (Student shows the hand groover to the teacher)

TEACHER: Then ... here (pointing) ... here and here you will have to crimp edges of the top. Right?

STUDENT: (Smiling and looking at the teacher) Yeah ... I'll get started. Oh, ... I had another meeting with my counselor.

TEACHER: How did it go?

STUDENT: It was just a check-up. We have meetings like that once in a while. We talked about some pamphlets like the Joint Apprenticeship Committee gave him.

TEACHER: Were the pamphlets blue and white with some pictures?

STUDENT: Yes! How did you know?

TEACHER: Well, the J.A.C. for the Sheet Metal trades helped the school with their preparation. I am an advisor to the Joint Apprenticeship Committee.

STUDENT: The pamphlet made a special point about visiting people on the job so you could really get an idea of what the job is like.

TEACHER: Un-hum ... What about your cousin?

STUDENT: That's an idea. I'll ask him tonight.

TEACHER: Let me know what he says ... Here ... (teacher motions with his hands) ... When you begin to bend the top so that it's round, do it gradually. A mistake many people make is bend too fast. When they do, the curve is uneven and kinked.

STUDENT: (Laughing slightly at his pun) Lots of squares!

TEACHER: (Chuckles) Yes ... and the final product wouldn't be any good. (Pause)

STUDENT: I've been worried about speed. On some jobs it is important to go fast. I don't like to go fast. I guess that is a weakness.

TEACHER: Your speed might be a weakness. It depends on the job, as you say. How fast you work is an important factor to think about in planning on what you do. However, as you get experienced you might be able to work a little faster. For the moment, let's try to do the job correctly.

STUDENT: (Smiles at the teacher and beings to bend the top so that it will be round)

TEACHER: That's the right way. You're getting the idea.

STUDENT: When I was talking with my counselor, he showed me some handouts on the Vocational Center. These were new ones that I had never seen before.

TEACHER: (Bends toward the student and gets ready to point at the sheet metal) Be careful there. That's a tricky point. (Pause) Yes. We worked out those pamphlets a few weeks ago. Those pamphlets should be helpful in making a decision about the Center.

STUDENT: (Finished bending the metal and shows the finished product to the teacher)

F A D E

COUNSELOR: No turn to Part Four of Sheet Metal and answer the three questions. Answer them as rapidly as you can.

SETTING: A large number of formed pieces for the round ventilator are on the workbench. A soldering copper is immediately behind the table area where the student will work.

STUDENT: I visited my cousin on his job.

TEACHER: You did? How was it?

STUDENT: Pretty interesting. I talked with a man about the apprentice program. I found out I have to have an interview and be a high school graduate.

TEACHER: Yes, that's right. A part of the selection for sheet metal apprentices is an interview. Usually I will introduce you to members of the Joint Apprenticeship Committee. They will ask you some questions.

STUDENT: (Somewhat worried) About what?

TEACHER: Oh ... for example, "What you want to become an apprentice?" or "Why you think you could do sheet metal work?"

STUDENT: (Puzzled look) Well the man I talked to said when I graduated from the Center, I would have a better opportunity to hold a job because I have been partially trained.

TEACHER: That's right. Part of the selection for the Center is based on how well we think you will do as an apprentice. The entire program is built around the idea of making you a better apprentice.

STUDENT: (Breathing a sigh of relief) Well, that's what I thought.

TEACHER: Later we'll have some practice interviews. Some of them will be with actual employers. Others will be with members of the Advisory Committee. We will help you get ready for the J.A.C.'s interviews.

STUDENT: That's great. (Student begins to place rivets in the holes drilled in the top of the ventilator. Then he pauses and looks at the teacher)

TEACHER: Which step is next? Do you rivet the brackets to the rounded pipe or to the top first?

STUDENT: (Pauses and looks at the alternatives) It would be easier if I did the riveting of the brackets to the top first.

TEACHER: Why don't you try it? (Smiles as if to encourage)

STUDENT: Yeah ... I would have a hard time bucking the rivets if the brackets were attached to the pipe.

TEACHER: That's a good point. Look at the alternatives before you begin to act. Try to predict what would happen. O.K?

STUDENT: (Smiling and laughing quietly) That's right. Think ahead. Plan my choices. Choose the most successful way to do it. (Student starts to place the rivets in the top)

F A D E

COUNSELOR: Now turn to Part One of Coating Technology and answer the three questions. Answer them as rapdily as you can.

COATING TECHNOLOGY SCRIPT - PART ONE

SETTING: In the center is a lab workbench. Equipment used in a Coating Technology Laboratory, i.e., Zahn viscosity cups, are off to one side of the bench. A boy is putting on a lab apron while talking with a girl who already is wearing an apron. The teacher is watching the boy.

TEACHER: During the next few weeks we will learn how to perform certain tests which are important in the coating industry. These procedures will be the same as the ones you will use on the job. The first test that I will show you is using Zahn viscosity cups. "Viscosity" is a measure of how fast a substance flows.

STUDENT: What you are saying is something like "Honey is more viscous than water."

TEACHER: That's right. That's a good comparison. (To the girl) What are these called?

GIRL: Zahn ...?

BOY: Zahn viscosity cups.

TEACHER: Fine. From your reading assignment you will remember the steps of this procedure. At what temperature must the fluid be before you run a test?

BOY: $77^{o}F$

TEACHER: Correct. Now run the test.

GIRL: It is a good thing we are wearing aprons.

BOY: (Looks at girl, smiles politely and turns toward teacher) (Begins to time the fluid in the Zahn cup)

TEACHER: Your viscosity measurement is the time it takes to empty the cup. This value is qualified by the size of the opening or orifice in the cup.

GIRL: I had doubts about taking math last year, but I am glad I did. (Pauses and looks at the teacher)

TEACHER: (Watches boy run test. Speaks to boy) How did you happen to sign up for Coating Technology courses?

BOY: (Holding the Zahn cup) Well ... I wanted to start my training in an occupation which would be needed in the future.

GIRL: Me too. One of my general science projects had to do with coatings. I was reading about the astronauts ...

BOY: I had the same assignment. Remember the pictures of the capsules in space? The earth was in the background.

GIRL: (To teacher) I remember a picture of the American flag on the capsules. How could they keep the flag on there?

TEACHER: That's a good question. People working in coating labs were able to develop substances which withstand temperatures between -50°C and +350°C. Do you happen to know any other special coatings that have been developed by the industry?

BOY: Yes. Many specially developed colored surfaces are now in use. For example, the new chalk boards (pointing).

TEACHER: They were developed because it is easier to see the chalk with a green surface. It took a creative person to develop that surface.

BOY: My counselor said a person in Coating Technology should be creative. My interest and ability tests showed I was interested in creative and artistic types of work.

GIRL: That's what my test results suggested.

TEACHER: (Nods in agreement with the students)

F A D E

COUNSELOR: Now turn to Part Two of Coating Technology and answer the three questions. Answer them as rapidly as you can.

SETTING: The Zahn viscosity cups are in the center of the table. A jar is placed before the girl. She and the boy are talking with the teacher.

TEACHER: Today we will run some more tests with the viscosity cups. (To the girl) You will use different sizes of cups to measure the viscosity of this paint.

GIRL: Sir, yesterday I was talking with my uncle about what I was doing at the Center. He works in the warehouse of a paint plant.

TEACHER: Did your uncle talk about the people who make the coatings?

GIRL: He did not tell me much about that part of the plant. The people work in a different building.

BOY: I'd like to see people actually working in a paint plant. That would be interesting.

TEACHER: It would be interesting for us all. (Turn to girl) A few days ago you were talking about your test results.

GIRL: They didn't tell me how messy the work was. I thought about it. I am willing to get a little dirty to do an interesting job.

TEACHER: In other words, you considered beside your interests and abilities some important personal qualities.

BOY: My counselor warned me, too. But I am more interested in doing something than in just sitting around and thinking about it.

TEACHER: That is a value. You value doing things. However, in the coating industry you have to be ready to think about why some paints went out of limits. (Face the girl) Plan ahead so that in case something does go wrong, you will be ready to make the best correction.

GIRL: In school I have had plenty of chances to do things wrong. Some of my tests have been so wrong that I don't even what to talk about them.

TEACHER: What do you do when something goes wrong?

GIRL: Well ... I try to find out what I did that was different. Usually when something goes wrong I forgot to consider all the alternatives.

BOY: (Faces the girl. Expression is slightly puzzled) Alternatives? Yeah ... I wrote away for some free literature. That's an alternative to talking with a counselor.

TEACHER: Printed materials can be very helpful in learning about an occupation. Where did you write?

BOY: The Paint Industry ... um ... The Paint Industry Education Bureau (proudly).

TEACHER: In Washington, D.C.

BOY: Yes.

TEACHER: Locally, the Coating Technology Society has set up an Advisory Council to work with the Vocational Center. The Council plans special conferences and student meetings.

GIRL: (Looking around the bench) Where is the stop watch?

BOY: (Reaches into his pocket) Here.

F A D E

COUNSELOR: Now turn to Part Three of Coating Teahnology and answer the three questions. Answer them as rapdily as you can.

SETTING: The teacher and girl are talking. An adhesion test device is in the middle of the bench. Several plates with a number code are lined up around the device. The teacher is pointing to the bend mandrel.

TEACHER: This is called a bend mandrel. It is used in the measurement of adhesion. The coated plate is placed here and the metal with the coating is bent over the mandrel. As the surface is bent tension occurs and we can observe cracking of certain paints.

GIRL: It is like when you bend a stick of gum ... some of the gum will crack and other parts will not break at all.

TEACHER: Yes! That's the idea. On this test we are interested in measuring tensile strength, flexibility and adhesion of the coating.

GIRL: There are other things we can measure.

TEACHER: (Extremely surprised) Yes, that's right!

BOY: (Enters and puts on an apron)

GIRL: You are late. We are learning about measuring adhesion.

TEACHER: (Double take toward girl)

BOY: (To girl) I know. (To teacher) I had a meeting with my counselor. I was showing him a list of movies on Coating Technology. (To girl) One of the free pamphlets had a list of movies.

TEACHER: Well... We are going on a visit to the coating plant.

BOY: That's good. I still want to get the "Big Picture."

GIRL: (Glowers at boy) The Big Picture?

BOY: Yes. I want to find out how many different kinds of work there are in the coating industry.

TEACHER: You have a good point. I would be concerned if I tried to base any decisions on just one visit. It is important to read pamphlets, to see movies, to talk with people on the job ...

GIRL: (No pause) To find out how you match with the people.

TEACHER: That's right. (Smiles)

BOY: I read pretty carefully one of the pamphlets. It showed how various kinds of training were important for different jobs.

GIRL: (Slightly sarcastic) That makes sense.

TEACHER: Wait a minute (laughing). Give him a chance. Let him tell us what he found out. We can run this test in a few minutes!

BOY: Thank you. (Catches his breath and looks at the girl) We can work in three major occupational areas within the industry.

TEACHER: For example, the Coating Technologist has a role in the Production Department.

BOY: And the Technical Department.

GIRL: What do you mean "Technical Department?"

BOY: (Slightly frustrated) He can work with a chemist and develop new ideas. This is called "R and D."

TEACHER: Research and Development.

BOY: He can also work in quality control ... running performance tests.

TEACHER: (To girl) Let me show you how to run this adhesion test.

F A D E

COUNSELOR: Now turn to Part Four of Coating Technology and answer the three questions. Answer them as rapdily as you can.

SETTING: The adhesion equipment has been placed in front of the girl. The teacher and boy are watching her as she places a panel on the bend mandrel. She presses the plate.

BOY: This is the third sample tested.

GIRL: (Glances at the boy and bends the plate over the mandrel)

TEACHER: That's the right technique. You have to apply continuous pressure so the shock doesn't shatter the coating.

BOY: I got a lot out of that visit to the laboratory in the coating plant.

GIRL: I learned a little more about the industry. I never really knew what my uncle did until I watched him work.

TEACHER: In the laboratory the Coating Technologist has new problems almost everyday. You have to keep records and analyze the results. Just the same way we will measure the adhesion of the coating on these panels.

GIRL: (To teacher) I wrote to the Department of Labor for some information about future jobs in the industry. One of the pamphlets said the products of the coating industry will always be needed.

TEACHER: That means jobs will be available.

BOY: (Pause) I went to the junior college. The teacher ...

GIRL: (Emphatically) Teachers are called "Instructors" in college.

BOY: O.K. (Grimaces) The instructor showed me some training labs for Coating Technology. They are like this one. The instructor said most of the graduates from the Vocational Center and then from junior college are immediately hired by the local coating plants.

TEACHER: That's a very good point. Many of the labs will hire students for summer or part time work during the school year.

GIRL: (Worried) Do you mean I have to go directly to junior college after graduating from the Vocational Center?

TEACHER: (To girl) No. I am not saying that. (To boy) What did some of the materials from the painting industry tell you about scholarships?

BOY: Some labs will hire you and then pay you to go to school.

GIRL: That's good to hear. How am I doing on this test?

BOY: (Tries to help) Keep it ...

TEACHER: You are doing well. Be careful. (To boy) Did the junior college instructor happen to tell you how many years you could go to school and learn about Coating Technology?

GIRL: (Grousing) You probably have to go to school for years ...

BOY: Well ...?

GIRL: I don't want to go to school for <u>ever</u>. I want to be trained so I can work in a coating technology laboratory. I don't want to run the whole business.

BOY: The instructor did say you could graduate from college and then study some more.

TEACHER: Actually, both of you are correct. Many local associations try to have special training meetings to bring up new ideas.

GIRL: Don't the shops have their own training programs.

TEACHER: That's right.

F A D E

SETTING: A closed door of a counselor's office. A few students might walk past the slightly opened door. From inside the following discussion is heard.

STUDENT: That was interesting. I did not know that so many different programs were given by the Vocational Center.

COUNSELOR: We saw only four of the more than fifteen different programs.

STUDENT: Fifteen! That's a lot. When I came here I had a problem: I wanted to find out about a school where I could get ready for a career.

COUNSELOR: Yes, that was your first step.

STUDENT: All the students seemed to be going through a number of steps. For example, they gathered information by talking with their counselor or by visiting somebody who worked in an occupation.

COUNSELOR: They also used the library, government booklets and pamphlets and the test results.

STUDENT: The student's abilities and interests and his values and personal qualities were matched with the needs of the occupation.

COUNSELOR: That's right.

STUDENT: One student talked about alternative plans.

COUNSELOR: Alternatives help to make a good decision. Beside each alternative it is a good idea to give an estimate of how successful that alternative will be.

STUDENT: Yes. Finally it looked like many students tried out one of their courses of action. They signed up for a program at the Vocational Center.

APPENDIX G

Print Name: _____

Period:_____ Sex:_____

STUDENT REACTION SHEET

Quickly respond to the following questions concerning the educational or vocational materials which have just been presented to you.

Circle the letter of the statement which best represents your reaction. Be honest - your reactions are confidential; they will be used for research purposes only.

1. To what degree were you interested in the materials?

   A. I was very interested.

   B. I was fairly interested.

   C. I was neither interested nor bored.

   D. I was not very interested.

   E. I was not interested at all.

2. What did you think of the materials presented to you?

   A. Excellent - some of the best I have seen.

   B. Good - better than most I have seen.

   C. Fair - average - like most I have seen.

   D. Poor - not as good as most I have seen.

   E. Horrible - some of the worst I have seen.

3. To what degree have these materials encouraged you to explore for more information about vocational educational planning?

   A. I am now stimulated to explore a lot.

   B. I am now stimulated to explore a little.

   C. Undecided - do not know what I shall do.

   D. I am not stimulated to explore much.

   E. I am not stimulated to explore at all.

APPENDIX H

SCHEDULE FOR VIDEOTAPE AND SOUNDTRACK PRESENTATIONS

TOPIC	PART TIME	ELAPSED TIME
Introduction	4:30	4:30
Questions	:45	5:15
Construction Technology I	2:15	7:30
Questions	:45	8:15
Construction Technology II	1:35	9:50
Questions	:45	10:35
Construction Technology III	2:00	12:35
Questions	:45	13:20
Construction Technology IV	1:50	15:10
Questions	:45	15:55
Health Services I	2:20	18:15
Questions	:45	19:00
Health Services II	2:30	21:30
Questions	:45	22:15
Health Services III	2:25	24:40
Questions	:45	25:25
Health Services IV	2:40	28:05
Questions	:45	28:50
Sheet Metal I	2:20	31:10
Questions	:45	31:55
Sheet Metal II	1:50	33:45
Questions	:45	34:30
Sheet Metal III	2:20	36:50
Questions	:45	37:35
Sheet Metal IV	1:50	39:25
Questions	:45	40:10
Coating Technology I	2:15	42:25
Questions	:45	43:10
Coating Technology II	2:20	45:30
Questions	:45	46:15
Caoting Technology III	2:00	48:15
Questions	:45	49:00
Coating Technology IV	2:05	51:05
Epilogue	1:20	52:25

APPENDIX I

Name _____

Age _____ Sex_____ Period_____

EDUCATIONAL INFORMATION-SEEKING BEHAVIOR INVENTORY

DIRECTIONS FOR THE STUDENT

This inventory asks you about things that you have done during the last three weeks. Read each question. Carefully think about your answer. Each of your answers will help us learn about high school students. We want to know what they do when they explore different educational opportunities.

If you need help, hold up your hand. A member of the Research Team will try to help you.

All of the questions ask about what you have done during the last three weeks. On either 2 April 1968 or 3 April 1968 you were given a presentation called "Getting Ready for Careers." We would like to know about certain things you have done to explore different educational opportunities.

APRIL

S	M	T	W	T	F	S
		2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24			

Your cooperation so far in this study has been greatly appreciated. Please be careful and thoughtful in making your answers. This is the final step of our study. Thank you.

Educational Information-Seeking Behavior Inventory
Page Two

HAVE YOU TALKED WITH ANY OF THE FOLLOWING PEOPLE IN THE LAST THREE WEEKS?

	YES	NO
1. Persons <u>now working</u> at the types of occupations you are thinking about? If you answered "Yes," with how many persons did you talk? Write the number in the block. ☐	—	—
2. Persons who <u>have worked</u> at the types of occupations you are considering? If you answered "Yes," with how many persons did you talk? Write the number in the block. ☐	—	—
3. Persons who <u>know about</u> the types of occupations you are thinking about, even though they have never worked at these occupations? These are people other than those mentioned in #1 and #2. If you answered "Yes," with how many persons did you talk? Write the number in the block. ☐	—	—
4. Persons who <u>are attending</u> or <u>who have attended</u> the Vocational Center or the school you are interested in attending in order to get the training and education you need for the types of occupations you are thinking about? If you answered "Yes," with how many persons did you talk? Write the number in the block. ☐	—	—
5. Persons who <u>know about</u> the Vocational Center or the schools, even though they did not attend them? If you answered "Yes," with how many persons did you talk? ☐	—	—
6. If you have not thought of them already, have you talked with high school counselors, teacher advisors, vocational teachers or other school persons about the types of educational programs you are thinking about? If you answered "Yes," with how many persons did you talk? ☐	—	—
7. If you have not thought of them already, have you talked with parents, other relatives, close friends or neighbors about the types of educational programs you are considering? If you answered "Yes," with how many persons did you talk? ☐	—	—

	YES	NO
8. Are there <u>any</u> <u>other</u> persons to who you have talked during this time about the types of educational programs you are thinking about? If you answered "Yes," with how many persons did you talk? Write the number in the block. ☐	—	—

Now add the numbers you have written in the blocks. In other words, what is the total number of people to whom you have talked? Write this number in the block. ☐

Then, if your total is more than zero, ask a member of the Research Team for one copy of "Form A" for each person you mentioned. Complete one copy of "Form A" for each person. When you finish all copies of "Form A," go on to SECTION B.

If your total is zero, go on to SECTION B now.

SECTION B

HAVE YOU DONE ANY OF THE FOLLOWING IN THE LAST THREE WEEKS?

9. <u>Have</u> <u>you</u> <u>written</u> <u>any</u> <u>place</u> for information (pamphlets, bulletins or catalogues) on the Vocational Center, on occupations or on schools where you could get training and education in an occupation? If you answered "Yes," how many letters did you write? ☐	—	—
10. <u>Have</u> <u>you</u> <u>looked</u> <u>at</u> <u>or</u> <u>read</u> any books, magazines, bulletin board posters or pamphlets about the educational opportunities you are thinking about? If you answered "Yes," how many different things did you look at or read? ☐	—	—
11. <u>Have</u> <u>you</u> <u>looked</u> <u>at</u> <u>or</u> <u>read</u> any information about the educational opportunities other than the ones you are considering? If you answered "Yes," how many different things did you look at or read? ☐	—	—
12. <u>Have</u> <u>you</u> <u>bought</u>, <u>borrowed</u> <u>or</u> <u>checked</u> <u>out</u> of the library any reading materials about the Vocational Center, the types of occupations or the schools you are considering, <u>but</u> you have not read this material yet? If you answered "Yes," how many different things did you get? ☐	—	—

	YES	NO
13. Have you watched or seen any TV programs, fair exhibits, or movies, or heard any radio programs about the Vocational Center, the occupations, or the schools that interest you?	___	___
If you answered "Yes," how many things did you listen to or see?	☐	

Once again, add the numbers you have written in the blocks. What is the total number of things you have done under SECTION B? Write this number in the block. ☐

Then, if your total is more than zero, ask a member of the Research Team for one copy of "Form B" for each thing you mentioned. Complete one copy of "Form B" for each separate thing you did. When you finish, go on to SECTION C.

If your total is zero, go on to SECTION C now.

SECTION C

HAVE YOU VISITED OR MADE PLANS TO VISIT ANY OF THE FOLLOWING PLACES IN THE LAST THREE WEEKS?

	YES	NO
14. Have you made any visits to jobs to see what the types of occupations you are considering are like?	___	___
If you answered "Yes," how many places did you visit?	☐	
15. Have you made any definite plans to make on-the-job visits to see what the types of occupations you are considering are like, but have not made these visits yet?	___	___
If you answered "Yes," how many places did you make definite plans to visit?	☐	
16. Have you visited the Vocational Center or any of the schools where you could get training and education for the occupations that you are thinking about?	___	___
If you answered "Yes," how many educational programs did you visit?	☐	
17. Have you made any definite plans to visit the Vocational Center or any schools where you could get training and education for the occupations that you are considering?	___	___
If you answered "Yes," how many places did you make definite plans to visit?	☐	

Once again, add the numbers you have written in the blocks. What is the total number of visits you have made or planned to make under SECTION C? Write this number in the block. ☐

Then, if your total is more than zero, ask a member of the Research Team for one copy of "Form C" for each separate visit. When you are finished go on to SECTION D.

If your total is zero, go on to SECTION D now.

SECTION D

OTHER IMPORTANT INFORMATION

	YES	NO
18. In the last three weeks, have you looked into or made definite plans to look into getting a summer or part-time job that is connected with the type of occupations that you are thinking about?	___	___
If you answered "Yes," how many jobs have you looked into or made definite plans to look into? ☐		
19. In the last three weeks, have you looked into or made definite plans to look into getting a summer or part-time job to make money for future training or educational expenses?	___	___
If you answerd "Yes," how many jobs have you looked into or made definite plans to look into? ☐		
20. In the last three weeks, have you taken or made definite plans to take any tests (other than regular classroom tests) in order to find out more about your interests, abilities or achievement?	___	___
If you answered "Yes," how many tests have you taken or made definite plans to take? ☐		
21. In the last three weeks, have you had a change in your educational plans that led you to consider changing your course of study in high school?	___	___
If you answered "Yes," how many times has this occurred during the last three weeks? ☐		
22. Have you changed your educational plans so that you are now signed up for the Vocational Center?	___	___

23. What kind of work does your father (or guardian) do at work?

_____

Does your mother work?____ If so, what does she do?_____

Once again, add the numbers you have written in the blocks. What is the total number of things you have done or planned to do under SECTION D? Write this number in the block. ☐

Then, if your total is more than zero, ask for one copy of "Form D" for each separate thing you mentioned. Complete one copy of "Form D" for each separate thing.

24. Did you see a videotape, hear an audiotape, or read a booklet on "Getting Ready for Careers?" Write your answer here: _____

---

25. Which one of these plans is yours? After graduating from high school, do you (1) plan to go to work? (2) plan to go to junior college? (3) plan to join the military? (4) plan to become an apprentice? (5) plan to go to a state college or university? Or, do you (6) plan not to graduate from high school? Write the number of your plan here: _____

EDUCATIONAL INFORMATION-SEEKING INVENTORY

FORM A PLEASE PRINT YOUR NAME _____

WITH WHOM HAVE YOU TALKED?

(Section A: Questions 1-8)

1. For which question are you using this form? ☐

2. What is the name of the person with whom you talked?

_____

3. What is his address or how can this person be reached?

_____

4. What did you talk about? Vocational Education? ☐ Occupations? ☐

Other School Programs? ☐ Other topics? ☐

_____

Please specify

5. About what types of educational opportunities did you talk with this person?

_____

_____

6. How many times during this past month did you talk with this person about this topic? ☐ Did you talk by telephone? ☐ or in person? ☐

About how many minutes did you talk with this person about this topic?

Under 15 ☐ 15-60 ☐ Over 1 hour ☐

7. What was the date when you talked with this person? Date:_____

8. Is this person on the high school staff? ☐ A relative? ☐

If other, specify _____

9. What was your main purpose in talking with this person?

_____

10. Did you decide to talk with this person ☐ or was it required for a class or a group? ☐

11. What do you believe is the most important fact you learned from the conversation? _____

EDUCATIONAL INFORMATION-SEEKING INVENTORY

FORM B PLEASE PRINT NAME _____

WHAT HAVE YOUR WRITTEN FOR, LOOKED AT, READ, OR OBTAINED?

(Section B: Questions 9-13)

1. For which question are you using this form? ☐

2. What was the name or title of the material?

_____

3. Who was the author of the material (who write it)?

_____

4. From where did you receive the material?

Checked out of the library ☐

Obtained as permanent possession ☐

Borrowed from someone ☐

Sent for by mail ☐

5. From whom did you get the material?

Name: _____

Address: _____

6. When did you get the material? Date: _____

7. What was your purpose in using the material? What was the material about? _____

_____

8. What was the most important fact you learned from the material?

_____

EDUCATIONAL INFORMATION-SEEKING INVENTORY

FORM C PLEASE PRINT NAME _____

VISITS MADE OR PLANNED

(Section C: Questions 14-17)

1. For which question are you using this form? ☐
2. Was your visit definitely made ☐ or is it planned for later? ☐
3. Did you decide to make (or plan to make) this visit ☐ or was it required for a class or group? ☐
4. Is this visit related to schools ☐ or to occupations? ☐
5. If your visit is related to educational opportunities, what educational program was involved? _____
6. What is the name of the person or the place you visited or plan to visit?

   Person's name: _____

   Person's position: _____

   Place's name: _____

   Address of person or place: _____

   _____
7. What was the date of your visit or when did you make definite plans for this visit? Date: _____
8. How much time did you spend (or will you spend) with this person or at this place? 15 minutes ☐ 30 minutes ☐ 45 minutes ☐
   1 hour ☐ 2 hours ☐ 3 hours ☐ over 3 hours ☐
9. What was (or will be) the purpose of your visit? _____

   _____
10. What is the most important fact you learned (or hope to learn) from the visit? _____

EDUCATIONAL INFORMATION-SEEKING INVENTORY

FORM D PLEASE PRINT NAME _____

OTHER IMPORTANT INFORMATION

(Section D: Questions 18-21)

A. If you are using this form for questions 18 and/or 19, answer the following questions. If you are using it for other questions, go on to the next page.

1. Did you get the summer or part-time job? ☐ or do you have definite plans to obtain one? ☐ or did you look and have not been successful so far? ☐
2. Will you be paid for your work? ☐ or are you volunteering? ☐
3. Are you interested in the job because it is connected with the types of occupations you are considering? ☐ or is it to make money for your future training or education expenses? ☐ or both? ☐
4. What will you be doing on the job? _____
5. Who did you contact for the job or hope to contact?

   Name: _____

   Address: _____
   (or how can they be reached)
6. When did you first talk to this person about the job or make definite plans to talk to this person? Date: _____
7. What is (or will be) the place at which you have (or hope to have) the job?

   Name: _____

   Address: _____
8. How, if at all, is the job connected with your occupational interests?

   _____

EDUCATIONAL INFORMATION-SEEKING INVENTORY

FORM D (CONTINUED)

B. If you are using this form for question 20, answer the following questions:

1. What tests did you take or make definite plans to take?

_____

2. When did you take them or make definite plans to take them?

Date: _____

3. With whom did you make the arrangements for these tests?

Person: _____ Position: _____

Address: _____

4. What is the purpose of taking these tests?

_____

5. Did you take them (or do you hope to take them) in order to help you make decisions about certain occupations? _____ If so, which ones?

_____

_____

C. If you are using this form for question 21, answer the following questions:

1. What was the change in your educational plans that you have had during this time? _____

2. When did this occur? Date: _____

3. With whom have you talked concerning the possibility of changing your course of study?

Person: _____ Position: _____

Address: _____

4. What has caused this change in your occupational interests? _____

_____

APPENDIX J

INSTRUCTIONS FOR PRE-TEST, TREATMENT, AND POST-TEST SESSIONS

How to get to San Jose High and/or Willow Glen High

STEP ONE — For San Jose High, take U.S. 101 to San Jose and stay on this route until you reach the "McKee-Julian Avenue" off-ramp. The "Julian Avenue" turnoff is almost immediately after taking the off-ramp. Use the "West Julian" turnoff and proceed to 24th. The high school is on the left. Park.

STEP TWO — Check in with the Principal's secretary. You will find her by entering the front door which is on 24th Street and turning to the right.

STEP THREE — Consult the map of the school. On Monday and Thursday the only room which we will use is Room 30. The teachers' names are Mr. Pare and Mr. Mazzei. I will tell you about Tuesday.

STEP FOUR — During your break periods between periods 2 and 4 and possibly before period 5 will you please start to do some of my work. That is, will you please use the "Occupational Interest Inventory" and do the following:

1. Consider only the rank scores of Health Services, Sheet Metal and Plastics, Construction Technology and Coating Technology. ADD THESE FOUR VALUES. PLACE THE TOTAL IN THE LOWER RIGHT HAND CORNER OF THE FORM.
2. This request applies ONLY to San Jose High Research Assistants on Monday, 1 April 1968.

STEP ONE — For Willow Glen High, take Interstate 280 to State Route 17. That is, at the end of 280 turn to the right at the sign for Santa Cruz. Your next turn will be at Hamilton Avenue. Cross over State Route 17 and head toward the East. Continue across Meridian Avenue to Hicks Avenue. At Hicks turn to the right for about fifty yards. Make a sharp left turn onto Pine. Willow Glen High will be on your right when you get to Cottle Road.

STEP TWO — Check in with the Counselor's Office, if you have time. If not proceed directly to Rooms V-103, V-104, and V-105. The teachers' names are Mr. Ross, Mr. Gray, and Mr. Brown. I do not know their room assignments.

Mrs. Coleman, Vice Principal, and Mr. Maynard Burton, Vocational Center Counselor, are working with us.

San Jose High School
275 24th Street
San Jose, California
294-4330

Period 2 - 9:00 to 9:50
Period 4 - 10:50 to 11:35
Period 6 - 12:20 to 1:10

Willow Glen High School
2001 Cottle Road
San Jose, California
266-7340

Period 1 - 8:05 to 8:55
Period 3 - 9:55 to 10:45
Period 4 - 10:50 to 11:40
Period 5 - 12:25 to 1:15
Period 6 - 1:20 to 2:10

INSTRUCTIONS FOR TESTING SESSION #1

TO TEST ADMINISTRATORS

Where quotation marks are used below, please read these statements to the students. Try not to make any other statements to them. In this way, we should be able to standardize the testing conditions across both schools and over all students involved. Thank you, in advance, for your cooperation in this project.

STEP ONE Seat all the students as quickly as possible since about 45 minutes will be necessary for students to adequately complete the three inventories used.

STEP TWO Distribute all three inventories (Occupational Interest Inventory, Vocational Education Attitude Questionnaire and Project TALENT Interest Inventory). Students should not begin until they are instructed to do so. They should write in the necessary information (name, sex, age, and period) on the front page of each inventory while they are waiting.

STEP THREE Introductory comments to be read to the students:

"Over the past few years, many attempts have been made at helping people, particularly high school students, to make wiser vocational choices based on accurate information.

Many vocational tests and materials which have been developed do not seem to be very effective. Therefore, American Institutes for Research in Palo Alto is trying to study old and new ideas on tests and materials, as well as to observe the students who will use them.

In a number of schools in the San Jose area, A.I.R. is surveying different groups of sophmores. Today's session is the first one in a series with sophmores in this school. We shall begin by studying the three tests or inventories which you have received.

Answer all items on these three inventories. Make accurate responses because you will be helping other students in the future. You will have the rest of the period in which to complete these inventories. Work steadily.

Begin with the one page test called the 'Occupational Interest Inventory,' then complete the 'Vocational Education Attitude Questionnaire.' Do 'The Project TALENT Interest Inventory' last. Start now."

STEP FOUR While the students respond, check to make sure that each student signs his or her name, age, sex, and period on the front of each test. Please note that the "Vocational Education Attitude Questionnaire" does not have appropriate spaces for these responses.

STEP FIVE Just before the end of the period, read appropriate statement:

"Thank you for your cooperation in the first part of this study. It will continue at San Jose High on Tuesday, 2 April. You will be assigned to different rooms on that day. Your room assignments will be posted outside of Rooms 30, 45, 46, and 24. Please move rapidly to your rooms on Tuesday. Again, thank you for your cooperation. Please make sure that your name is on the front page of each inventory you completed."

"Thank you for your cooperation in the first part of this study. It will continue at Willow Glen High on Wednesday, 3 April. You will be assigned to different rooms on that day. Your room assignments will be posted outside of Rooms V-103, V-104, and V-105. Please move rapidly to your rooms on Wednesday. Again, thank you for your cooperation. Please make sure that your name is on the front page of each inventory you completed."

STEP SIX Collect all the inventories. Place them in the appropriately indicated envelopes. Thanks!

INSTRUCTIONS FOR VOCATIONAL MATERIALS SESSIONS

TO RESEARCH ASSISTANTS

Where quotation marks are used below, please read these statements to the students. Try not to make any other statements to them. In this way, we should be able to standardize the testing conditions across both schools and over all students involved.

STEP ONE As students enter the room give them "Getting Ready for Careers--Student Booklet" and a "Student Reaction Sheet" and have them write their names, age, sex, and class period on the front page of each form. Students should not open the booklet until instructed to do so.

STEP TWO Introductory comments to be read to the students:

"You will remember that on Monday you participated in the first session of this study of vocational tests and materials. Perhaps you will recall that sophmores in a number of high schools in the San Jose area are involved in this American Institutes for Research project.

Today we are interested in your reactions to some educational and vocational materials. Study them closely. At the end of this class period, quickly but thoughtfully complete the 'Student Reaction Sheet' which you have been given."

STEP THREE If you are working with the videotape materials, turn off the lights and begin the videotape presentations. Please notice in the "Schedule for Videotape and Soundtrack Presentations" that between each part of the presentation the student has 45 seconds to answer three questions in the "Getting Ready for Careers--Student Booklet."

The group may not spend more than 45 seconds on the three questions.

The tape will say, NOW TURN TO PART "SO-AND-SO" ON (AN OCCUPATIONAL AREA) AND ANSWER THE THREE QUESTIONS. ANSWER THEM AS RAPDILY AS YOU CAN. The 45 seconds begins at this time. You will have to signal the video or audio operator when to begin the next presentation.

STEP FOUR When the bell rings at the end of the period, say the following:

"This presentation will end in approximately three minutes. Thank you for your attentive participation. Would you please quickly complete your 'Student Reaction Sheet' before you leave. Make sure your name is on it."

STEP ONE ALTERNATIVE If you are working with the script presentation, give the students "Getting Ready for Careers," "Getting Ready for Careers - Student Booklet," and the "Student Reaction Sheet" and have them write their name, age, sex, and class period on ONLY the "Student Booklet" and the "Student Reaction Sheet." Students should not open the booklet until instructed to do so.

STEP TWO ALTERNATIVE Introductory comments to be read to the students:

"You will remember that on Monday you participated in the first session of this study of vocational tests and materials. Perhaps you will recall that sophmores in a number of high schools in the San Jose area are involved in this American Institutes for Research project.

Today we are interested in your reactions to some educational and vocational materials. Study them closely. At the end of this class period, quickly but thoughtfully complete the 'Student Reaction Sheet' which you have been given."

STEP THREE ALTERNATIVE Instructions to be read to the students:

"Begin by reading the 'Getting Ready for Careers' presentation. At certain points in this presentation you will be told to read three questions in 'Getting Ready for Careers - Student Booklet.' Answer these questions as rapidly as you can. Begin now."

STEP FOUR ALTERNATIVE When the bell rings at the end of the period, say the following:

"You will have three minutes to complete your reading of this presentation. Thank you for your attentive participation. Would you please quickly complete your 'Student Reaction Sheet' before you leave. Make sure your name is on it."

STEP FIVE Collect the "Getting Ready for Careers - Student Booklet," and the "Student Reaction Sheet." Place them in appropriate envelopes.

STEP FIVE ALTERNATIVE Collect the "Getting Ready for Careers - Student Booklet," the "Student Reaction Sheet," AND "Getting Ready for Careers." Place the former two items in their appropriate envelopes. We will reuse "Getting Ready for Careers."

Room Assignments:

San Jose High School
Videotapes in 30 & 45
Audiotape in 30
Script in 24

Willow Glen High School
Videotapes in V-103 & V-105
Audiotape in V-104
Script in:
V-203 for Period I 8:05 - 8:55
V-101 for Period II 9:55 - 10:45
V-101 for Period IV 10:50 - 11:40
V-204 for Period V 12:25 - 1:15
V-105 for Period VI 1:20 - 2:10

INSTRUCTIONS FOR VIDEOTAPE OPERATORS

The two versions for the videotape presentation will be shown in separate rooms. At San Jose High the Mexican American model will be shown in Room 30, while the Anglo model will be shown in Room 45.

The tapes have approximately one minute of hash between each episode. I do not want the students to be distracted by this hash. Therefore, please use the "operator monitor." When you hear the cue on the tape, turn off the student's presentation and advance the tape to the next presentation.

You will have approximately 45 seconds to advance the tape and be prepared for the next presentation. The Research Assistant who is working with you in the room will try to provide a direct cue to you when approximately forty seconds are up. This should give you enough time to get the tape restarted.

A counselor on the tape will say, NOW TURN TO PART (NUMBER GIVEN) OF (AN OCCUPATION) AND ANSWER THE THREE QUESTIONS. ANSWER THEM AS RAPIDLY AS YOU CAN. As soon as you hear this statement, turn off the equipment, advance the tape, and be prepared to restart the tape in approximately 45 seconds.

The two versions for the videotape presentation will be shown in separate rooms at Willow Glen High School. Room V-103 will be used for the Mexican American version while Room V-105 will be used for the Anglo version.

APPENDIX K

INSTRUCTIONS FOR FOLLOW-UP SESSION

TO RESEARCH ASSISTANTS:

Where quotation marks are used below, please read these statements to the students. Try to minimize the other statements to them. In this way, we should be able to standardize the information gathering conditions across both schools and over all students involved.

STEP ONE As the students enter the room give them an "Educational Information Seeking Behavior Inventory" and have them sign their names on it while they are waiting in their seats.

STEP TWO Introductory comments to the students:

"You will remember that three weeks ago you were presented with a series of vocational and educational materials. Perhaps you will recall that sophmores in several San Jose high schools are involved in this American Institutes for Research study.

The purpose of today's session is to find out what you have been doing to explore different high school educational opportunities.

Read the directions on the cover of the "Educational Information Seeking Behavior Inventory" and answer each question as carefully as you can. Notice the calendar on the cover of the Inventory. We are interested in your educational information seeking during the last three weeks.

When you need forms, raise your hand and indicate to a member of the research team how many forms you need. Begin now."

STEP THREE Be prepared to hand out Forms A, B, C, and D. Insure that the student is reporting on a behavioral event which occurred after April 2 or 3, 1968.

STEP FOUR After the first ten minutes of the period ask "How many have finished Part A?" Ten minutes later ask about Part B and so on. You might have to prompt the students to go on to the next part.

STEP FIVE Concluding comments to be read to the students:

"Thank you for participating in this study. Would you please make sure that your names are on each form and on the Inventory before you turn them in. Thank you again."

Rooms V-103, V-104, V-105

Period I 8:05 - 8:55
Period III 9:55 - 10:45
Period IV 10:50 - 11:40
Period V 12:25 - 1:15
Period VI 1:20 - 2:10

APPENDIX L

SUPPLEMENTAL RESULTS--STUDY A

Two supplemental analyses were performed and these provided information which was additional to the basic hypothesis-testing topic.

Student Reactions to Treatments

The Student Reaction Sheet (see Appendix G) was completed by each subject immediately after the treatment presentations. Subjects' responses to each of the three questions were then subjected to five analyses of covariance or variance. These analyses corresponded to the sequences of five comparisons discussed in Chapter II. The results from these analyses are presented in Appendix N. Only those results that are significant at the conventional levels are reported in Table 13. The cell means for these comparisons are given in Appendix M.

Overall Main and Interaction Effects

The results from the overall alanyses of covariance and variance show significant differences in the effects of the four treatment procedures and in the effects of the two ethnic groups. These data showed that Mexican-American subjects were more interested in, and more stimulated to gather other vocational materials by the treatment materials than were the non-Mexican-American subjects. No significant differences in the socioeconomic level main effect were found in these analyses.

Experimental versus Active-control Procedures

In order to compare the immediate student reactions to the two experimental videotape ethnic social modeling procedures and to

the active-control materials, the results obtained by the subjects in the two experimental conditions were averaged and compared with the averaged results for the active-control groups.

The covariance and variance analyses performed on these three criterion measures showed that the subjects did not express a preference for either experimental or active-control presentations. The data did demonstrate that among all subjects, the Mexican-American subjects were more interested in, and more stimulated by the vocational materials than were the non-Mexican-American subjects.

Videotape Treatment Comparisons

Covariance and variance analyses were performed on these three supplemental measures. Again, the Mexican-American subjects reported a greater interest in the vocational materials than did their non-Mexican-American counterparts. The treatment differences in this comparison showed the non-Mexican-American model videotape was more interesting than the Mexican-American model videotape for all students. On the reported degree of stimulation to explore for additional materials, the Mexican-American subjects who had viewed the Mexican-American model reported a greater degree of stimulation than the non-Mexican-American subjects who had viewed the same videotape models. This difference is compatible with the hypotheses dealing with the effects of models on observers of the same ethnic group presented in Chapter II. There was almost no difference in the degree of stimulation to explore between the Mexican-American and non-Mexican-American subjects who saw the non-Mexican-American models.

TABLE 13

ANALYSIS OF COVARIANCE AND VARIANCE RESULTS FOR SELECTED VARIANCE COMPONENTS FROM ANALYSES OF STUDENT REACTIONS TO TREATMENTS

Dependent Variables	Analyses Design Used	Source of Variation	df	MS	F	P
SRS_1	TC_1 vs TC_2 vs C_3 vs C_4	Ethnic group	1	16.02	10.70	.005
		Treatment	3	9.25	6.18	.025
		Within	192	1.50		
SRS_2		Treatment	3	8.04	6.35	.025
		Within	231	1.27		
SRS_3		Ethnic group	1	9.11	6.83	.01
		Within	188	1.33		
SRS_1	$TC_{1,2}$ vs $C_{3,4}$	Ethnic group	1	14.86	9.26	.005
		Within	200	1.60		
SRS_3		Ethnic group	1	8.02	5.60	
		Within	196	1.43		
SRS_1	TC_1 vs TC_2	Ethnic group	1	8.85	5.75	.025
		Treatment	1	6.25	4.06	.05
		Within	98	1.54		
SRS_3		Ethnic x Treatment	1	7.36	5.20	.05
		Within	96	1.41		
SRS_1	C_3 vs C_4	Ethnic group	1	6.35	4.44	.05
		Treatment	1	18.96	13.25	.001
		Ethnic x Socio-economic x Treatment	1	7.01	4.90	.05
		Within	93	1.43		
SRS_2		Treatment	1	21.97	16.91	.001
		Within	112	1.30		
SRS_3		Treatment	1	12.00	9.43	.005
		Within	90	1.27		
SRS_1	$TC_{1,2}$ vs. C_3	Ethnic group	1	11.91	7.53	.01
		Treatment	1	11.49	7.27	.01
		Within	151	1.58		
SRS_2		Treatment	1	7.79	6.11	.025
		Within	182	1.27		
SRS_3		Ethnic group	1	10.39	7.00	.01
		Within	147	1.48		

NOTE: Criterion measure used was Student Reaction Sheet. All cell means for all statistical analyses performed on data from this criterion are presented in Appendix M. The varying number of S_s used in these analyses of covariance and variance depended on the S_s who completed the appropriate covariates as well as the Student Reaction Sheet. Analysis of variance was used for the second Student Reaction Sheet item. The maximum number of S_s was 247.

Audiotape versus script from videotape

The covariance and variance analyses performed on these supplemental criterion measures showed that the script treatment exerted a significantly greater effect on the subjects than did the audiotape procedure. The Mexican-American subjects greater interest in the vocational materials was again found. A second-order interaction suggested middle socioeconomic level Mexican-American subjects were most interested in the script materials.

Videotape versus audiotape comparison

The analyses of these data by covariance and variance procedures showed that the videotape treatments exerted a significantly greater effect as measured by the three supplemental criterion measures than did the audiotape. Also, the data showed the Mexican-American subjects were more interested in, and more stimulated by the materials than were the non-Mexican-American subjects and that all subjects were more interested in, and had a more positive opinion of the videotapes than the audiotape.

Intercorrelation Matrix

Table 14 presents the product moment intercorrelations of scores on the six criteria used in this investigation. The three pretest scores, three posttest scores, and the three immediate reaction scores have been included in a nine by nine matrix. Only those subjects who were present at all data collection events and who correctly completed each instrument contributed to the data which were used in this matrix. Because of the large sample size (N = 139), the magnitude of the coefficient required for significance at the .05

TABLE 14

INTERCORRELATION MATRIX, MEANS, AND STANDARD DEVIATIONS FOR SIX CRITERION MEASURES

	OII pre	VEAQ pre	PTII pre	VEAQ post	PTII post	SRS_1	SRS_2	SRS_3	EISBI	Mean	Standard Deviation
OIIpre		-.032	.076	-.043	.027	.014	-.048	-.029	.031	42.964	8.439
VEAQpre			.166*	.453*	.231*	.189*	.131	.211*	.183*	55.201	5.475
PTIIpre				.221*	.826*	.151	.138	.219*	-.043	39.799	8.078
VEAQpost					.218*	.372*	.236*	.327*	.114	55.039	7.208
PTIIpost						.210*	.112	.285*	-.081	39.863	9.126
SRS_1							.612*	.675*	.239*	3.036	1.276
SRS_2								.545*	.191*	3.022	1.113
SRS_3									.294*	3.007	1.195
EISBI										4.971	5.214

The criterion measures used in this product moment intercorrelation matrix are as follows: Occupational Interest Inventory (OII); Vocational Education Attitude Questionnaire (VEAQ); Project TALENT Interest Inventory (PTII); Student Reaction Sheet ($SRS_{1,2,3}$); and, Educational Information-Seeking Inventory (EISI). A total of 139 subjects correctly completed all pretest and posttest measures that were necessary to complete this matrix. This large sample size reduced the magnitude of the correlation coefficient significant at the five percent level to .16. An asterisk (*) identifies those correlation coefficients that are significant at the five percent level.

level is small (r = .16). The summary of results from Table 12 include the following:

1. Correlations between .45 and .83 were found between the pretest and posttest scores for two of the criterion measures. These correlations were .45 for the Vocational Education Attitude Questionnaire and .83 for the Project TALENT Interest Inventory. The reliability of these two instruments is stated in terms of their test-retest correlations.

2. The Occupational Interest Inventory score did not correlate with any of the other criterion measures. The product moment intercorrelations for this measure ranged between -.05 and +.08. The effect of such a low correlation between a control variable to be used in block randomization and the criterion variables has been previously reported in Chapter II. The effect was to obviate the use of this measure as the control variable used in a block randomization design.

3. The subjects' posttest scores on the Vocational Education Attitude Questionnaire was significantly correlated with the subjects' posttest scores on the Project TALENT Interest Inventory. Although this correlation was significant, it is small and possibly not very meaningful.

4. The three scores from the subjects' immediate reactions to the treatment materials were positively correlated--between .55 and .67. The largest correlation occurred between questions "1" and "3" which involved how interested the subjects said they were in the materials and the amount of information-seeking the subjects planned to perform.

5. The Educational Information-Seeking Inventory was more closely related to the subjects' immediate reactions than to either of the posttest measures. The frequency of educational information-seeking behaviors reported by the students generally was not correlated with each of the other criterion measure scores. The range for these correlations was between -.08 and +.29.

APPENDIX M

TABLE M-1

CELL MEANS FOR FOUR LEVELS OF TREATMENT
TWO SOCIOECONOMIC LEVELS, AND TWO ETHNIC GROUPS

		TC_1				TC_2				C_3				C_4			
		MIDDLE		LOW		MIDDLE		LOW		MIDDLE		LOW		MIDDLE		LOW	
		MA	NMA	MA	NMA	MA	NMA	MA	NMA	MA	NMA	MA	NMA	MA	NMA	MA	NMA
1	OII pre	41.33	42.24	43.57	44.20	41.60	42.77	43.00	41.14	46.25	42.04	45.29	43.17	47.50	40.81	43.00	44.14
2	VEAQ pre	58.75	54.52	45.71	53.00	53.71	56.86	56.80	58.00	54.75	54.18	53.86	54.75	57.25	54.91	55.75	54.50
	VEAQ post	58.00	53.45	54.00	54.00	54.71	55.39	60.40	59.00	49.50	54.93	55.57	57.00	56.00	54.04	55.37	56.87
3	PTII pre	38.75	38.97	42.29	38.40	38.43	36.32	41.60	43.86	38.25	39.76	39.00	41.40	43.50	39.48	41.63	33.75
	PTII post	42.25	38.94	44.00	32.60	37.14	35.36	40.20	45.29	38.50	38.69	40.86	39.80	41.00	39.39	45.63	37.13
4	EISI	5.75	3.67	4.44	9.17	5.20	5.93	3.00	6.67	2.80	6.19	2.50	4.75	6.75	4.95	5.33	6.29
5	SRS_1	3.25	2.54	3.56	2.33	3.75	3.09	4.00	3.57	2.17	2.39	3.50	1.83	4.20	3.00	4.00	3.75
6	SRS_2	2.60	2.75	3.40	2.71	3.13	3.03	3.43	3.22	2.50	2.45	3.09	2.00	3.80	3.19	3.73	3.63
7	SRS_3	3.25	2.48	4.13	2.17	3.13	2.81	3.00	3.57	2.67	2.41	3.37	2.20	4.00	3.04	3.75	3.87

Note 1: TC_1 was the Mexican American videotape model. TC_2 was the NMA videotape model. C_3, an active control, was the soundtrack from the videotape. C_4, a second active control, was the script from the videotapes.

Note 2: Variable 1 was used as the control variable in the random assignment procedures. Variables 2 and 3 were administered on a pre- and post-test basis to a maximum of 184Ss. Means listed represent average pre-test or pre-test and post-test scores. Variables 4 through 7 were administered on a post-test basis to a maximum of 247Ss. Means listed represent averaged post-test scores.

TABLE M-2

CELL MEANS FOR TWO LEVELS OF TREATMENT
(EXPERIMENTAL VIDEOTAPES VS. ACTIVE CONTROLS)
TWO SOCIOECONOMIC LEVELS, AND TWO ETHNIC GROUPS

		$TC_{1,2}$				$C_{3,4}$			
		MIDDLE		LOW		MIDDLE		LOW	
		MA	NMA	MA	NMA	MA	NMA	MA	NMA
1	OII pre	41.50	42.47	43.33	42.42	46.87	41.44	44.06	43.69
2	VEAQ pre	55.55	55.63	50.33	56.18	56.00	54.41	54.87	54.58
	VEAQ post	55.91	54.37	56.67	57.18	52.75	54.53	55.47	56.92
3	PTII pre	38.55	37.75	42.00	41.58	40.87	39.63	40.40	36.69
	PTII post	39.00	37.30	42.42	40.00	39.75	39.00	43.40	38.15
4	EISBI	5.44	4.73	4.08	7.92	4.56	5.68	3.71	5.73
5	SRS_1	3.58	2.80	3.73	3.00	3.09	2.67	3.76	2.93
6	SRS_2	2.92	2.88	3.41	3.00	3.09	2.79	3.41	2.76
7	SRS_3	3.17	2.64	3.64	2.92	3.27	2.70	3.56	3.23

Note 1: TC_1 was the Mexican American videotape model. TC_2 was the Anglo videotape model. C_3, an active control was the soundtrack from the videotape. C_4, a second active control, was the script from the videotapes.

Note 2: Variable 1 was used as the control variable in the random assignment procedures. Variables 2 and 3 were administered on a pre- and post-test basis to a maximum of 184Ss. Means listed represent average pre-test or pre-test and post-test scores. Variables 4 through 7 were administered on a post-test basis to a maximum of 247Ss. Means listed represent averaged post-test scores.

TABLE M-3

CELL MEANS FOR TWO LEVELS OF TREATMENT
MEXICAN-AMERICAN VS. NON-MEXICAN-AMERICAN VIDEOTAPES
TWO SOCIOECONOMIC LEVELS, AND TWO ETHNIC GROUP LEVELS

		TC_1				TC_2			
		MIDDLE		LOW		MIDDLE		LOW	
		MA	NMA	MA	NMA	MA	NMA	MA	NMA
1	OII pre	41.33	42.09	43.57	44.20	41.60	42.89	43.00	41.14
2	VEAQ pre	59.80	54.52	54.14	53.00	52.00	56.86	56.80	58.00
	VEAQ post	55.60	53.45	51.86	54.00	56.17	55.39	60.40	59.00
3	PTII pre	39.20	38.97	42.29	38.40	38.00	36.32	41.60	43.86
	PTII post	42.20	38.94	44.00	32.60	36.33	35.36	40.20	45.29
4	EISI	5.75	3.67	4.44	9.17	5.20	5.93	3.00	6.67
5	SRS_1	3.25	2.54	3.56	2.33	3.75	3.09	4.00	3.57
6	SRS_2	2.60	2.75	3.40	2.71	3.13	3.03	3.42	3.22
7	SRS_3	3.25	2.49	4.12	2.17	3.13	2.81	3.00	3.57

Note 1: TC_1 was the Mexican American videotape model. TC_2 was the Non-Mexican-American videotape model.

Note 2: Variable 1 was used as the control variable in the random assignment procedures. Variables 2 and 3 were administered on a pre- and post-test basis to a maximum of 184Ss. Means listed represent average pre-tes or pre-test and post-test scores. Variables 4 through 7 were administered on a post-test basis to a maximum of 247Ss. Means listed represent averaged post-test scores.

TABLE M-4

CELL MEANS FOR TWO LEVELS OF TREATMENT
(AUDIOTAPE VS. SCRIPT)
TWO SOCIOECONOMIC LEVELS, AND TWO ETHNIC GROUP LEVELS

		C_3				C_4			
		MIDDLE		LOW		MIDDLE		LOW	
		MA	NMA	MA	NMA	MA	NMA	MA	NMA
1	OII pre	46.25	42.04	45.29	43.17	47.50	40.81	43.00	44.14
2	VEAQ pre	54.75	54.18	53.86	54.75	57.25	54.91	55.75	54.50
	VEAQ post	49.50	54.93	55.71	57.00	56.00	54.04	55.37	56.87
3	PTII pre	38.25	39.76	39.00	41.40	43.50	39.48	41.63	33.75
	PTII post	38.50	38.69	40.86	39.80	41.00	39.39	45.63	37.13
4	EISI	2.80	6.19	2.50	4.75	6.75	4.95	5.33	6.29
5	SRS_1	2.17	2.39	3.50	1.83	4.20	3.00	4.00	3.75
6	SRS_2	2.50	2.45	3.09	2.00	3.80	3.19	3.72	3.62
7	SRS_3	2.67	2.41	3.37	2.20	4.00	3.03	3.75	3.87

Note 1: C_3, an active control, was the soundtrack from the videotape. C_4, a second active control, was the script from the videotapes.

Note 2: Variable 1 was used as the control variable in the random assignment procedures. Variables 2 and 3 were administered on a pre- and post-test basis to a maximum of 184Ss. Means listed represent average pre-test or pre-test and post-test scores. Variables 4 through 7 were administered on a post-test basis to a maximum of 247Ss. Means listed represent averaged post-test scores.

TABLE M-5

CELL MEANS FOR TWO LEVELS OF TREATMENT
(VIDEOTAPES VS. AUDIOTAPE)
TWO SOCIOECONOMIC LEVELS, AND TWO ETHNIC GROUP LEVELS

		$TC_{1,2}$				C_3			
		MIDDLE		LOW		MIDDLE		LOW	
		MA	NMA	MA	NMA	MA	NMA	MA	NMA
1	OII pre	41.50	42.47	43.33	42.42	46.25	42.04	45.28	43.17
2	VEAQ pre	55.54	55.63	55.25	54.18	54.75	54.18	53.86	54.75
	VEAQ post	55.91	54.37	55.42	54.18	49.50	54.93	55.57	57.00
3	PTII pre	38.55	37.75	42.00	41.58	38.25	39.76	39.00	41.40
	PTII post	39.00	37.30	42.42	40.00	38.50	38.69	40.86	39.80
4	EISI	5.44	4.74	4.08	7.92	2.80	6.19	2.50	4.75
5	SRS_1	3.58	2.81	3.73	3.00	2.17	2.39	3.50	1.83
6	SRS_2	2.92	2.88	3.41	3.00	2.50	2.44	3.10	2.00
7	SRS_3	3.17	2.64	3.64	2.92	2.67	2.41	3.37	2.20

Note 1: TC_1 was the Mexican American videotape model. TC_2 was the Anglo videotape model. C_3, an active control was the soundtrack from the videotape.

Note 2: Variable 1 was used as the control variable in the random assignment procedures. Variables 2 and 3 were administered on a pre- and post-test basis to a maximum of 184Ss. Means listed represent average pre-test or pre-test and post-test scores. Variables 4 through 7 were administered on a post-test basis to a maximum of 247Ss. Means listed represent averaged post-test scores.

APPENDIX N

TABLE N-1

ANALYSIS OF COVARIANCE AND VARIANCE RESULTS
FOR VARIANCE COMPONENTS FROM TWO LEVELS OF TREATMENT
TWO LEVELS OF SOCIOECONOMIC LEVEL, AND TWO LEVELS OF ETHNIC GROUP

	df	SS	MS	F	p<
		EISI			
1	1	52.70	52.70	1.52	.25
2	1	1.52	1.52	.04	.75
3	3	47.50	15.83	.46	.75
12	1	43.69	43.69	1.26	.50
13	3	35.50	11.68	.34	.90
23	3	49.39	16.46	.47	.75
123	3	44.62	14.87	.43	.75
Co 1	1	58.70	58.70	1.69	
Error	160	5554.64	34.72		
Total	176	5885.79			
		VEAQ			
1	1	1.13	1.13	.02	.90
2	1	137.31	137.31	2.90	.10
3	3	91.31	30.43	.64	.75
12	1	.13	.13	.00	.975
13	3	110.63	36.88	.78	.75
23	3	59.61	19.87	.42	.75
123	3	62.06	20.68	.51	.75
Co 1	1	461.44	461.44	9.94	
Co 2	1	313.11	313.11	6.60	
Error	161	7635.94	47.43		
Total	178	8872.67			
		PTII			
1	1	53.06	53.06	1.89	.25
2	1	20.81	20.81	.74	.50
3	3	52.13	17.37	.62	.75
12	1	22.06	22.06	.78	.50
13	3	190.00	63.33	2.25	.25
23	3	219.69	73.23	2.60	.25
123	3	62.56	20.85	.74	.75
Co 1	1	57.87	57.87	2.06	
Co 2	1	9135.50	9135.50	324.95	
Error	166	4669.69	28.13		
Total	183	14483.37			

(Continued)

TABLE N-1 (Continued)

	df	SS	MS	F	p <
		SRS_1			
1	1	16.02	16.02	10.70	.005
2	1	3.07	3.07	2.05	.25
3	3	27.75	9.25	6.18	.025
12	1	1.06	1.06	.71	.50
13	3	.39	.13	.09	.975
23	3	.20	.06	.05	.99
123	3	8.78	2.93	1.96	.25
Co 1	1	11.31	11.31	7.55	
Error	192	287.46	1.50		
Total	208	356.04			
		SRS_3			
1	1	9.11	9.11	6.83	.01
2	1	2.59	2.59	1.94	.25
3	3	13.70	4.56	3.42	.10
12	1	.05	.05	.04	.90
13	3	8.46	2.82	2.11	.25
23	3	.61	.20	.15	.95
123	3	9.18	3.06	2.29	.25
Co 1	1	9.16	9.16	6.85	
Co 2	1	7.44	7.44	5.57	
Error	188	251.05	1.33		
Total	205	311.35			
		SRS_2			
1	1	4.32	4.32	3.42	.10
2	1	1.86	1.86	1.47	.25
3	3	24.13	8.04	6.35	.025
12	1	1.29	1.29	1.02	.50
13	3	.94	.31	.25	.90
23	3	.48	.16	.13	.95
123	3	3.53	1.17	.93	.50
Error	231	292.38	1.27		
Total	246	328.93			

Note: 1 = Ethnic group
2 = Socioeconomic level
3 = Treatment
12 = Ethnic group x socioeconomic level
13 = Ethnic group x treatment
23 = Socioeconomic level x treatment
123 = Ethnic group x socioeconomic level x treatment
Co 1 = Vocational Education Attitude Questionnaire (covariate)
Co 2 = Project TALENT Interest Inventory (covariate)

TABLE N-2

ANALYSIS OF COVARIANCE AND VARIANCE RESULTS
FOR VARIANCE COMPONENTS FROM TWO LEVEL OF TREATMENT
(EXPERIMENTAL VIDEOTAPES VS. ACTIVE CONTROLS)
TWO LEVELS OF SOCIOECONOMIC LEVEL, AND TWO LEVELS OF ETHNIC GROUP

	df	SS	MS	F	p <
		EISI			
1	1	60.69	60.69	1.78	.25
2	1	4.05	4.05	.12	.75
3	1	7.52	7.52	.22	.75
12	1	41.32	41.32	1.21	.50
13	1	.61	.61	.02	.90
23	1	9.74	9.74	.29	.75
123	1	18.83	18.83	.55	.50
Co 1	1	65.82	65.82	1.93	
Error	168	5732.12	34.12		
Total	176	5940.70			
		VEAQ			
1	1	6.13	6.13	.13	.75
2	1	166.75	166.75	3.60	.10
3	1	37.37	37.37	.81	.50
12	1	.06	.06	.00	.975
13	1	89.87	89.87	1.94	.25
23	1	11.31	11.31	.24	.75
123	1	.06	.06	.00	.975
Co 1	1	639.56	639.56	13.82	
Co 2	1	306.06	306.06	6.61	
Error	169	7823.31	46.30		
Total	178	9080.48			
		PTII			
1	1	31.13	31.13	1.08	.50
2	1	54.13	54.13	1.87	.25
3	1	29.00	29.00	1.00	.50
12	1	21.37	21.37	.74	.50
13	1	6.63	6.63	.23	.75
23	1	77.25	77.25	2.68	.25
123	1	2.81	2.81	.10	.90
Co 1	1	83.81	83.81	2.90	
Co 2	1	9611.25	9611.25	332.91	
Error	174	5023.50	28.87		
Total	183	14940.87			

(Continued)

TABLE N-2 (Continued)

	df	SS	MS	F	p <
		SRS_1			
1	1	14.86	14.86	9.26	.005
2	1	4.22	4.22	2.64	.25
3	1	.56	.56	.35	.75
12	1	.52	.52	.33	.75
13	1	.44	.44	.27	.75
23	1	.76	.76	.47	.50
123	1	.22	.22	.14	.75
Co 1	1	19.70	19.70	12.28	
Error	200	320.91	1.60		
Total	208	362.19			
		SRS_3			
1	1	8.02	8.02	5.60	.025
2	1	5.12	5.12	3.58	.10
3	1	.68	.68	.47	.50
12	1	.00	.00	.00	ns
13	1	.61	.61	.42	.75
23	1	.24	.24	.17	.75
123	1	.69	.69	.48	.50
Co 1	1	13.01	13.01	9.09	
Co 2	1	6.22	6.22	4.35	
Error	196	280.46	1.43		
Total	205	315.05			
		SRS_2			
1	1	4.81	4.81	3.56	.10
2	1	2.00	2.00	1.48	.25
3	1	.07	.07	.05	.90
12	1	1.23	1.23	.91	.50
13	1	.61	.61	.45	.75
23	1	.23	.23	.17	.75
123	1	.00	.00	.00	ns
Error	239	323.25	1.35		
Total	246	332.20			

Note: 1 = Ethnic group
2 = Socioeconomic level
3 = Treatment
12 = Ethnic group x socioeconomic level
13 = Ethnic group x treatment
23 = Socioeconomic level x treatment
123 = Ethnic group x socioeconomic level x treatment
Co 1 = Vocational Education Attitude Questionnaire (covariate)
Co 2 = Project TALENT Interest Inventory (covariate)

TABLE N-3

ANALYSIS OF COVARIANCE AND VARIANCE RESULTS FOR
VARIANCE COMPONENTS FROM TWO LEVELS OF TREATMENT
MEXICAN-AMERICAN VS. NON-MEXICAN-AMERICAN VIDEOTAPES
TWO LEVELS OF SOCIOECONOMIC LEVEL, AND TWO LEVELS OF ETHNIC GROUP

	df	SS	MS	F	p <
		EISI			
1	1	27.19	27.19	.77	.50
2	1	7.49	7.49	.21	.75
3	1	1.23	1.23	.23	.75
12	1	56.76	56.76	1.61	.25
13	1	.12	.12	.00	.975
23	1	44.17	44.17	1.25	.50
123	1	6.39	6.39	.18	.75
Co 1	1	90.09	90.09	2.55	
Error	81	2860.37	35.31		
Total	89	3093.81			
		VEAQ			
1	1	3.13	3.13	.07	.90
2	1	15.56	15.56	.34	.75
3	1	197.75	197.75	4.41	.05
12	1	10.00	10.00	.22	.75
13	1	42.25	42.25	.94	.50
23	1	24.94	24.94	.56	.50
123	1	4.13	4.13	.09	.90
Co 1	1	483.00	483.00	10.77	
Co 2	1	18.56	18.56	.41	
Error	83	3721.75	44.84		
Total	92	4521.07			
		PTII			
1	1	44.81	44.81	1.91	.25
2	1	7.25	7.25	.31	.75
3	1	3.75	3.75	.16	.75
12	1	4.75	4.75	.20	.75
13	1	114.06	114.06	4.87	.05
23	1	46.31	46.31	1.98	.25
123	1	68.06	68.06	2.90	.10
Co 1	1	158.94	158.94	6.79	
Co 2	1	5403.81	5403.81	230.76	
Error	79	2103.88	23.42		
Total	95	7955.62			

(Continued)

TABLE N-3 (Continued)

	df	SS	MS	F	p <
		SRS_1			
1	1	8.85	8.85	5.75	.025
2	1	.79	.79	.51	.50
3	1	6.25	6.25	4.06	.05
12	1	.15	.15	.10	.90
13	1	.48	.48	.31	.75
23	1	.14	.14	.09	.90
123	1	.80	.80	.52	.50
Co 1	1	2.05	2.05	1.33	
Error	98	150.88	1.54		
Total	106	170.39			
		SRS_3			
1	1	5.62	5.62	3.97	.10
2	1	.70	.70	.49	.50
3	1	.02	.02	.02	.90
12	1	.23	.23	.16	.90
13	1	7.36	7.36	5.20	.05
23	1	.17	.17	.12	.90
123	1	4.68	4.68	3.31	.10
Co 1	1	3.37	3.37	2.38	
Co 2	1	5.00	5.00	3.54	
Error	96	135.84	1.41		
Total	105	162.99			
		SRS_2			
1	1	.84	.84	.68	.50
2	1	1.89	1.89	1.53	.25
3	1	2.13	2.13	1.72	.25
12	1	1.06	1.06	.86	.50
13	1	.06	.06	.05	.90
23	1	.08	.08	.06	.90
123	1	.63	.63	.51	.50
Error	119	146.85	1.23		
Total	126	153.54			

Note: 1 = Ethnic group
2 = Socioeconomic level
3 = Treatment
12 = Ethnic group x socioeconomic level
13 = Ethnic group x treatment
23 = Socioeconomic level x treatment
123 = Ethnic group x socioeconomic level x treatment
Co 1 = Vocational Education Attitude Questionnaire (covariate)
Co 2 = Project TALENT Interest Inventory (covariate)

TABLE N-4

ANALYSIS OF COVARIANCE AND VARIANCE RESULTS
FOR VARIANCE COMPONENTS FROM TWO LEVELS OF TREATMENT
(AUDIOTAPE VS. SCRIPT)
TWO LEVELS OF SOCIOECONOMIC LEVEL, AND TWO LEVELS OF ETHNIC GROUP

	df	SS	MS	F	p <
		EISI			
1	1	19.28	19.28	.56	.50
2	1	2.40	2.40	.07	.90
3	1	40.40	40.40	1.18	.50
12	1	2.07	2.07	.06	.90
13	1	34.66	34.66	1.02	.50
23	1	2.40	2.40	.07	.90
123	1	12.21	12.21	.36	.75
Co 1	1	.41	.41	.01	.95
Error	78	2662.44	34.13		
Total	86	2776.27			
		VEAQ			
1	1	93.00	93.00	2.49	.25
2	1	159.06	159.06	4.26	.05
3	1	2.44	2.44	.07	.90
12	1	.25	.25	.01	.95
13	1	.57	.57	.02	.90
23	1	4.50	4.50	.12	.75
123	1	62.69	62.69	1.68	.25
Co 1	1	840.00	840.00	22.48	
Co 2	1	328.87	328.87	8.80	
Error	76	2840.19	37.37		
Total	85	4331.57			
		PTII			
1	1	15.13	15.13	.47	.50
2	1	89.63	89.63	2.77	.25
3	1	28.87	28.87	.89	.50
12	1	23.44	23.44	.72	.50
13	1	17.94	17.94	.55	.50
23	1	52.50	52.50	1.62	.25
123	1	1.25	1.25	.04	.90
Co 1	1	18.75	18.75	.58	
Co 2	1	3610.69	3610.69	111.50	
Error	78	2525.75	32.38		
Total	87	6383.95			

(Continued)

TABLE N-4 (Continued)

	df	SS	MS	F	p<
		SRS_1			
1	1	6.35	6.35	4.44	.05
2	1	2.77	2.77	1.94	.25
3	1	18.96	18.96	13.25	.001
12	1	.98	.98	.68	.50
13	1	.05	.05	.03	.90
23	1	.01	.01	.01	.95
123	1	7.01	7.01	4.90	.05
Co 1	1	12.79	12.79	8.94	
Error	93	133.06	1.43		
Total	101	181.98			
		SRS_3			
1	1	3.46	3.46	2.72	.25
2	1	1.99	1.99	1.56	.25
3	1	12.00	12.00	9.43	.005
12	1	.03	.03	.02	.90
13	1	1.33	1.33	1.05	.50
23	1	.25	.25	.20	.75
123	1	3.87	3.87	3.04	.10
Co 1	1	6.37	6.37	5.01	
Co 2	1	2.62	2.62	2.06	
Error	90	114.59	1.27		
Total	99	146.51			
		SRS_2			
1	1	4.10	4.10	3.16	.10
2	1	.31	.31	.24	.75
3	1	21.97	21.97	16.91	.001
12	1	.33	.33	.25	.75
13	1	.22	.22	.17	.75
23	1	.06	.06	.04	.90
123	1	2.85	2.85	2.19	.25
Error	112	145.54	1.30		
Total	119	175.38			

Note: 1 = Ethnic group
2 = Socioeconomic level
3 = Treatment
12 = Ethnic group x socioeconomic level
13 = Ethnic group x treatment
23 = Socioeconomic level x treatment
123 = Ethnic group x socioeconomic level x treatment
Co 1 = Vocational Education Attitude Questionnaire (covariate)
Co 2 = Project TALENT Interest Inventory (covariate)

TABLE N-5

ANALYSIS OF COVARIANCE AND VARIANCE RESULTS
FOR VARIANCE COMPONENTS FROM TWO LEVELS OF TREATMENT
(VIDEOTAPES VS. AUDIOTAPE)
TWO LEVELS OF SOCIOECONOMIC LEVEL, AND TWO LEVELS OF ETHNIC GROUP

	df	SS	MS	F	p<
		EISI			
1	1	76.67	76.67	2.04	.25
2	1	.45	.45	.01	.95
3	1	27.07	27.07	.72	.50
12	1	9.21	9.21	.25	.75
13	1	12.89	12.89	.34	.75
23	1	13.35	13.35	.36	.75
123	1	27.15	27.15	.72	.50
Co 1	1	129.83	129.83	3.46	
Error	129	4843.66	37.55		
Total	137	5140.28			
		VEAQ			
1	1	38.87	38.87	.89	.50
2	1	86.00	86.00	1.98	.25
3	1	10.94	10.94	.25	.75
12	1	2.94	2.94	.07	.90
13	1	42.06	42.06	.97	.50
23	1	54.63	54.63	1.26	.50
123	1	54.63	54.63	1.26	.50
Co 1	1	810.63	810.63	18.64	
Co 2	1	32.06	32.06	5.34	
Error	126	5480.69	43.50		
Total	135	6613.45			
		PTII			
1	1	62.19	62.19	2.09	.25
2	1	.38	.38	.01	.95
3	1	1.56	1.56	.05	.90
12	1	11.69	11.69	.39	.75
13	1	2.25	2.25	.08	.90
23	1	4.87	4.87	.16	.75
123	1	1.13	1.13	.04	.90
Co 1	1	61.19	61.19	2.06	
Co 2	1	8143.25	8143.25	274.55	
Error	131	3890.25	29.70		
Total	140	11377.76			

(Continued)

TABLE N-5 (Continued)

	df	SS	MS	F	p<
		SRS_1			
1	1	11.91	11.91	7.53	.01
2	1	2.07	2.07	1.31	.50
3	1	11.49	11.49	7.27	.01
12	1	4.92	4.92	3.11	.10
13	1	.04	.04	.02	.90
23	1	.25	.25	.16	.75
123	1	4.33	4.33	2.74	.10
Co 1	1	9.12	9.12	5.77	
Error	151	238.75	1.58		
Total	159	282.88			
		SRS_3			
1	1	10.39	10.39	7.00	.01
2	1	1.23	1.23	.83	.50
3	1	2.59	2.59	1.75	.25
12	1	1.86	1.86	1.27	.50
13	1	.12	.12	.08	.90
23	1	.02	.02	.01	.95
123	1	.49	.49	.33	.75
Co 1	1	5.61	5.61	3.78	
Co 2	1	8.96	8.96	6.03	
Error	147	218.18	1.48		
Total	156	249.45			
		SRS_2			
1	1	4.27	4.27	3.35	.10
2	1	.95	.95	.75	.50
3	1	7.79	7.79	6.11	.025
12	1	3.32	3.32	2.61	.25
13	1	.82	.82	.64	.50
23	1	.34	.34	.27	.50
123	1	.77	.77	.60	.50
Error	182	231.97	1.27		
Total	189	250.23			

Note: 1 = Ethnic group
2 = Socioeconomic level
3 = Treatment
12 = Ethnic group x socioeconomic level
13 = Ethnic group x treatment
23 = Socioeconomic level x treatment
123 = Ethnic group x socioeconomic level x treatment
Co 1 = Vocational Education Attitude Questionnaire (covariate)
Co 2 = Project TALENT Interest Inventory (covariate)

APPENDIX O

INTRODUCTORY FILM SCRIPT

NON-MEXICAN-AMERICAN MODELS

Debby: What am I going to do after school? It's getting to me--this not knowing. I really can't do anything--like I couldn't get any of the jobs listed in the paper.

Gary: My father--he's really bugging me. Wants me to go to college and be a doctor like he is. But that's not for me. All I like to do is play around with my stereo or my car. But my dad is really down on that. To him, it's college or nothing.

Marcella: I don't know. And that's all I ever say when someone asks me what I will be doing. I never even thought of it until this year. That's the story of my life. No planning so I regret it later.

Debby: I wonder if I could do something that would be interesting? I love to put things together. Oh, it's all so messed up in my head.

Rick: I have an idea of what I would like to do but its kind of general. I want to do some kind of lab work. I don't know too much about it. The problem is that I don't know where to look.

Marcella: My grades aren't too good but I'm not stupid. I'd like to do something really different. I'm going to talk to my counselor and see what he has to say. Maybe I'll have to take more skill tests to find out where I'm at.

Lydia: This girl I knew last year . . . she went somewhere and learned some kind of nursing. She said they teach all kinds of things and you spend half your school day at this place.

Gary: I wonder if they have anything for me. My dad couldn't gripe about something that was already in the school system.

Debby: How do we find out about this place.

Marcella: A place where you could learn some practical skills. I couldn't lose anything by looking into it.

Rick: The Regional Vocation Center??

RVC

A Place to Learn Skills

for Tomorrow

INTRODUCTORY FILM SCRIPT

MEXICAN-AMERICAN MODELS

Lydia: I've been thinking of what I'm going to do when I graduate. All kinds of things have been in my mind but one thing is certain--I don't want to sit around an office all day. I want to do something different--not be a secretary. I guess I'll just have to take anything that comes along. There's nothing I'm particularly good at. I'm not going to college . . .

Henry: I've been thinking of dropping out of school. Like I'm not learning anything. I could be out working. I'm in trouble with most of my teachers--real trouble.

David: And me? Am I any different? No, like you. Maybe I'm a little different. I know what I would like to do. My cousin, Manny, he has his own dry cleaning shop and lets me work there. I like it--meeting all those people and I feel useful. After all, I go to church and everyone is all dressed up in their good clothes. They have to have their clothes cleaned and Manny does it. But I don't know where to get the training and there is so much to learn. I don't even know where to look.

Margaritta: I heard about something the other day that sounded really interesting. It's kind of a lab set-up where you mix all kinds of paints and then test them for all kinds of conditions. It's a very new industry. I know very little about it.

Lydia: This girl I knew last year. . . she went somewhere and learned some kind of nursing. She said they teach all kinds of things and you spend half your school day at this place.

Henry: Half your school day? You mean you can get out of here? I wonder what the place teaches. Where could I find out about it? Does anyone know?

Margaritta: I know what it is. It's the Regional Vocational Center. There was some meeting about it last year. I didn't go but I bet that's the place.

David: The Regional Vocational Center. I wonder . . .

RVC

A Place to Learn Skills

for Tomorrow

FILM VIGNETTE #1--METALLURGY

(TITLES ALL IN CAPITAL LETTERS INDICATE SIGNS WHICH APPEAR IN THE FILM)

1. Model sitting at table with family. They are looking over RVC material. The camera moves in on material on the table. It stops and zooms in on one booklet:

   Metallurgy

2. Door at RVC with title on the door....the door opens slowly.

3. Overall shot of the entire RVC shop with students at stations in the shop.

4. METALLURGY WATCHES OVER INDUSTRY FOR FAILURE

5. METALLURGY CHECKS METALS FOR QUALITY
   Various shots of testing instruments in industrial shop.

6. FOR HARDNESS
   Shot of hardness tester.

7. FOR STRENGTH
   Shot of tensile strength machine.

8. DIAGNOSIS THROUGH PICTURES
   Slides of X-ray and microscope.

9. TO SEE INSIDE A WELD
   Shot of welding being performed and then X-ray of weld.

10. TO SEE INSIDE WITH SOUND WAVES
    Shot of ultrasonic tester.

11. METALLURGY KEEPS A CLOSE WATCH ON INDUSTRY
    Superimposition of dials going, furnaces opening, gauges registering.

12. Overall shot of RVC shop--camera moves in on one student at a station.

13. Cut to industrial setting to show relevance with industry.

14. SPEAK TO YOUR COUNSELOR FOR MORE INFORMATION
    Student talking to counselor over desk.

15. GATHER INFORMATION ABOUT THE FIELD AND ITS OPPORTUNITIES
    Student removing book from shelf in library.

16. VISIT THE INDUSTRY IN WHICH YOU ARE INTERESTED
    Student standing in an industrial shop.

17. RVC door closing--camera on Title which is on door.

FILM VIGNETTE #2--DRY CLEANING

(TITLES IN ALL CAPITAL LETTERS INDICATE SIGNS WHICH APPEAR IN THE FILM)

1. Model walks up to the RVC building (near the sign). In his hand is a pamphlet. The camera zooms in on the title.

   Dry Cleaning

2. Door at the RVC (title on the door). The door slowly opens.

3. Overall shot of entire RVC shop with students operating machines at all the stations.

4. THERE WILL ALWAYS BE DRY CLEANING
   Fast edited series of shots with many people bringing bundles of clothes into the shop and placing them on the counter.

5. THERE ARE VAST OPPORTUNITIES FOR SMALL BUSINESS
   Many still shots of small cleaning stores.

6. DRY CLEANING IS NECESSARY AND NEEDED
   Shot of people leaving church

7. AND YOU CAN MEET LOTS OF PEOPLE
   Fast edited series of shots of woman behind counter meeting many people.

8. Long shot of Dry Cleaning shop at RVC. Camera zooms in on one student at machine.

9. Cut to industry and camera pulls back to show industrial setting.

10. This pair of shots is continued for at least three machines inside the shop going to industry to show relation between shop and industry.

11. SPEAK TO YOUR COUNSELOR FOR MORE INFORMATION
    Student talking to counselor over desk.

12. GATHER INFORMATION ABOUT THE FIELD AND ITS OPPORTUNITIES
    Student removing book from shelf in library.

13. VISIT THE INDUSTRY IN WHICH YOU ARE INTERESTED
    Student standing in an industrial shop.

14. RVC door closing--camera on title which is on door.

FILM VIGNETTE #3--ELECTRO-MECHANICAL

(TITLES IN ALL CAPITAL LETTERS INDICATE SIGNS WHICH APPEAR IN THE FILM)

1. Model is seen talking to a guidance counselor. The counselor passes some literature to the student and the camera moves in on the title of one of the pamphlets:

   Electro-Mechanical

2. Door at RVC which has the title on the door. The door slowly opens.

3. Model is seen in a fast series of still shots. Each shot is at a different station of the shop and the model is slowly building up his expression of ecstasy and delight.

4. THE JOBS IN THE ELECTRO-MECHANICAL FIELD ARE:

   5. CONSTRUCTION ELECTRICIAN

   6. APPLIANCE SERVICE AND REPAIR

   7. ELECTRONICS ASSEMBLY

   8. AUTOMOTIVE TECHNICIAN

   9. BUSINESS AND INDUSTRIAL MACHINE

   10. DEFENSE RESEARCH AND DEVELOPMENT

   11. RADIO AND TV SERVICE

   (each field sign is accompanied by an industrial shot as an example)

12. WITH A BASIC KNOWLEDGE OF ELECTRICITY AND MECHANICS, YOU CAN WORK IN ANY OF THESE FIELDS.

13. SPEAK TO YOUR COUNSELOR FOR MORE INFORMATION
    Student talking to counselor over desk.

14. GATHER INFORMATION ABOUT THE FIELD AND ITS OPPORTUNITIES
    Student removing book from shelf in library.

15. VISIT THE INDUSTRY IN WHICH YOU ARE MOST INTERESTED
    Student standing in an industrial shop.

16. RVC door closing--camera on Title which is on door.

FILM VIGNETTE #4--COATINGS TECHNOLOGY

(TITLES IN ALL CAPITAL LETTERS INDICATE SIGNS WHICH APPEAR IN THE FILM)

1. Model in the library. Opens a pamphlet and the camera moves in on the title:

   Coatings Technology

2. Door at RVC which has the title on the door and door slowly opens.

3. THE COATINGS INDUSTRY MAKES:

   4. PAINTS--shot of pigment moving on conveyor into vat where mixed.

   5. FINISHES--wood panels coming off the line.

   6. COATS TO PROTECT AGAINST HEAT--space capsule going up.

   7. COATS TO PROTECT AGAINST WEATHER--rain against a house.

   8. BODYGUARDS FOR CARS--Car being painted.

   9. COATS TO PRESERVE FOODS AGAINST SPOILING--cans on assembly line.

10. Overall shot of entire shop with students at stations
    Camera zooms to one student.

11. Cut to industry to show relation of shop to industry.

12. SPEAK TO YOUR COUNSELOR FOR MORE INFORMATION
    Student talking to counselor over desk.

13. GATHER INFORMATION ABOUT THE FIELD AND ITS OPPORTUNITIES
    Student removing book from shelf in library.

14. VISIT THE INDUSTRY IN WHICH YOU ARE MOST INTERESTED
    Student standing in an industrial shop.

15. RVC door closing--camera on Title which is on door.

American Institutes for Research
Guidance Research Program

APPENDIX P

STUDENT RESPONSE BOOKLET

STUDY B

YOUR NAME _____

Wait until you are told to turn the page.

This material was prepared under Grant #OEG-9-9-140099-0008(057), Research Project #8-I-099, with the Office of Education, U. S. Department of Health, Education, and Welfare. January, 1970.

SECTION 1

QUESTIONS ON METALLURGY

1. If you were attending the Regional Vocational Center, you would be spending one half of your school day there. Yes ☐ No ☐

2. If you were working in the field of metallurgy, you seldom would work in a laboratory. Yes ☐ No ☐

3. Metallurgy workers check for the quality of metals. Yes ☐ No ☐

4. In metallurgy workers often make tests for the color of metals. Yes ☐ No ☐

5. Metallurgy helps industry prevent product failures. Yes ☐ No ☐

Wait until you are told to turn the page.

ANSWERS to Section 1

METALLURGY

1. Yes -- The Regional Vocational Center is organized so that you spend one half of your regular school day there. If you attend the Center, you would receive specific job skill training and this together with your half day at your high school also would qualify you for a high school diploma. Bus transportation would be furnished to and from the Vocational Center and your high school.

2. No -- Many of the jobs in the field of metallurgy are located in a laboratory where special machines are available to test the metals.

3. Yes -- This is one of the most important functions of the metallurgy field. It makes tests to see how well metals that are involved in industry will be able to do their job. That is, how strong they are, how hard they are, how well they can be welded together, etc.

4. No -- Metallurgy does not usually test for color. Different metals will have different colors but the metallurgist is more concerned with the strength and durability of the metal than the color.

5. Yes -- Metallurgy identifies weaknesses in metals so that these weaknesses can be corrected in industry.

SECTION 2

QUESTIONS ON DRY CLEANING

1. The dry cleaning program at the Regional Vocational Center is available to girls only. Yes ☐ No ☐

2. The opportunities for starting your own dry cleaning business are greater than they are in many other fields of work. Yes ☐ No ☐

3. The rapid growth in population means there will continue to be a great demand for skilled workers in the dry cleaning industry. Yes ☐ No ☐

4. Pressing garments, draperies, and other articles is not important in the dry cleaning industry. Yes ☐ No ☐

5. There is opportunity for working independently and for meeting people in dry cleaning. Yes ☐ No ☐

Wait until you are told to turn the page.

ANSWERS to Section 2

DRY CLEANING

1. No -- The dry cleaning program at the Regional Vocational Center is open to both boys and girls. Both men and women are employed in the dry cleaning industry.

2. Yes -- This is one feature that is important to many students being trained to do dry cleaning. The opportunities to start your own business are great.

3. Yes -- As there are more people, there will be more clothes that need to be dry cleaned and greater needs for skilled workers in this industry.

4. No -- In addition to cleaning, dry cleaners also must press the garments, draperies, and other articles. The pressing of these articles is an important part of the industry.

5. Yes -- Dry cleaners often work alone doing special tasks. They have articles of clothing which are their responsibility to clean and press. However, there are also job opportunities to meet the people who bring in their clothes to be cleaned.

SECTION 3

QUESTIONS ON ELECTRO-MECHANICAL

1. There are only a few different types of jobs for which you might be trained in the electro-mechanical field. Yes ☐ No ☐

2. Students often make instrument readings as they learn the skills in the electro-mechanical field. Yes ☐ No ☐

3. The electro-mechanical program at the Regional Vocational Center will teach you basic knowledge and skills in electricity and mechanics. Yes ☐ No ☐

4. Many jobs in the electro-mechanical field involve working with animals. Yes ☐ No ☐

5. Example jobs in the electro-mechanical field include appliance repairmen and defense research and development technician. Yes ☐ No ☐

Wait until you are told to turn the page.

ANSWERS to Section 3

ELECTRO-MECHANICAL

1. No -- You could be trained for many different jobs if you were trained in the electro-mechanical field. Among these are: construction electrician, appliance service and repair, electronics assembly, automotive technician, defense research and development work, and radio and TV service.

2. Yes -- Tests are made by using special machinery and the findings are recorded.

3. Yes -- Knowledge and skills in electricity and mechanics are the main requirements in the field and the Regional Vocational Center will give you this basic training.

4. No -- Jobs in the electro-mechnical field do not involve work with animals.

5. Yes -- These are two types of jobs for which you would be qualified after receiving training in the electro-mechnical field at the RVC.

SECTION 4

QUESTIONS ON COATINGS TECHNOLOGY

1. Many jobs in the coatings industry are laboratory jobs. Yes ☐ No ☐

2. The coatings industry makes paints, varnishes, and lacquers. Yes ☐ No ☐

3. The coatings industry makes fur coats. Yes ☐ No ☐

4. Coatings on metal cans protect food from spoiling. Yes ☐ No ☐

5. Coastings on metal and wood protect the products against heat and cold. Yes ☐ No ☐

Wait until you are told to turn the page.

ANSWERS to Section 4

COATINGS TECHNOLOGY

1. Yes -- Many jobs in the coatings industry are involved with the mixing and testing of paints, lacquers, and varnishes and these are done in a laboratory.

2. Yes -- Paints, varnishes, and lacquers are the types of coats that are made by the coatings industry.

3. No -- Fur coats are not the type of coats made by the coatings industry.

4. Yes -- This is one of the purposes of the coatings industry--to coat the inside and outside of cans in such a way that foods are prevented from spoiling.

5. Yes -- Coats of paints and varnishes and lacquers are applied to all kinds of metals, woods, etc., in order to protect them from heat (as in the case of a space capsule) and cold (as in the case of house paints which must survive the winter).

Print Name _____

Period _____ Sex _____

STUDENT REACTION SHEET

Quickly respond to the following questions concerning the educational or vocational materials which have just been presented to you.

Circle the letter of the statement which best represents your reaction. Be honest - your reactions are confidential; they will be used for research purposes only.

1. To what degree were you interested in the materials?

   A. I was very interested.

   B. I was fairly interested.

   C. I was neither interested nor bored.

   D. I was not very interested.

   E. I was not interested at all.

2. What did you think of the materials presented to you?

   A. Excellent - some of the best I have seen.

   B. Good - better than most I have seen.

   C. Fair - average - like most I have seen.

   D. Poor - not as good as most I have seen.

   E. Horrible - some of the worst I have seen.

3. To what degree have these materials encouraged you to explore for more information about vocational education planning?

   A. I am now stimulated to explore a lot.

   B. I am now stimulated to explore a little.

   C. Undecided - do not know what I shall do.

   D. I am not stimulated to explore much.

   E. I am not stimulated to explore at all.

There are additional materials in the library on the Regional Vocational Center, and the courses taught there. If you are interested in seeing them ask the librarian, Mrs. Collins, and she will help you.

* * * * * *

The vocational counselor, Mr. Fechter, would be happy to talk with any students who would like to get more information about the Regional Vocational Center. If you would like to get more information, fill in your name on the form below, tear off the form along the dotted line, and drop the form in the box labeled "Counselor Request" by the door as you leave the room today.

* * * * * *

This material was prepared under Grant #OEG-9-9-140099-0009 (057), Research Project 8-I-099, with the office of Education, U. S. Department of Health, Education, and Welfare. January 1970.

_____ would like to talk with
(Print your name)

Mr. Fechter to learn more about the Regional Vocational Center.

APPENDIX Q

BASELINE CONTROL ANNOUNCEMENT

REGIONAL VOCATIONAL CENTER

Did you know that San Jose has a Regional Vocational Center (RVC) which you are eligible to attend? The Regional Vocational Center is a place where you can receive vocational education and learn many different vocational shills. If you are interested in finding out more about the RVC and the courses taught there, there are some special materials in the library which you may look through. If you would like to see them, ask the librarian, Mrs. Collins.

Also, the vocational counselor, Mr. Fechter, would be very happy to talk with any students who would like to learn more about RVC. If you would like to get more information, fill in your name on the form below, tear off the form along the dotted line, and drop the form in the box labeled "Counselor Request" by the door as you leave the room today.

This material was prepared under Grant #OEG, 9-9-140099-0008 (057), Research Project 8-I-099, with the Office of Education, U. S. Department of Health, Education, and Welfare. January 1970.

_____ would like to talk to
(Print your name)

the Vocational Counselor, Mr. Fechter, to get more information about the Regional Vocational Center.

APPENDIX R

INSTRUCTIONS TO ADMINISTRATORS
(Study B Film Treatments)

You will enter a regular classroom and the students from this class must be divided into three groups.

Opening remarks: *Good morning. My name is _____. You will remember that yesterday you participated in the first session of this study of vocational tests and materials. You will recall that students in several high schools in the Bay Area are involved in this American Institutes for Research project.*

Today we are interested in your reactions to some educational and vocational materials. Study them closely. During and at the end of this class period, there will be some materials for you to complete. I would like some of you to remain in this room, and others to go to a different room. Listen while I read the following list of names: **(Read List No. 1 which is attached.)** *Now will the students whose names I just read please go quickly to _____ _____?* **(Send that group of students on their way.)**

Listen to the next list of names. **(Read List No. 2 which is attached.)** *Will those students please go quickly to _____?* **(Send them on their way.)**

Will the rest of you please remain seated?

Wait until a group of students from the other room arrives. When they arrive and are seated, you are ready to begin.

1. **Introduce the guidance activity in the following manner.** *Today we want your reactions to a film on the Regional Vocational Center. At points throughout the film you will be asked to answer questions in copies of the Student Response Booklet which I will pass out now. Do not open the booklets until you are told to do so.*

This material was prepared under Grant #OEG-9-9-140099-0008(057), Research Project 8-I-099, with the Office of Education, U. S. Department of Health, Education, and Welfare. January 1970.

2. Pass out the Student Response Booklet to each student. Ask each student to write his full name on the booklet.
3. Start the projector and watch the first section of the film. At the end of the first segment, a voice on the film will say, "Stop the projector. Answer the questions in your booklet."
4. Stop the projector, turn on the lights. Instruct the students to open their booklets to Section 1 and answer the questions on that page.
5. It should take about a minute for the students to answer the questions. When the students are finished, say *Now turn to the next page (on page 2) and quickly check your answers to Section 1.*
6. Allow about a minute for this. Then say *Now watch the next part of the film.*
7. At the next stop of the projector, ask the students to turn the page and answer the questions in Section 2 on page 3. When they are finished, have them read the answers to Section 2 on page 4.
8. At the third stop, ask the students to answer the questions to Section 3 on page 5 of their booklets. After a minute have them turn to the answers for Section 3 on the following page. Then watch the end of the film.
9. At the conclusion of the film, have the students answer the questions to Section 4 (page 7) and read the answers to the questions on page 8.
10. Next ask the students to turn to the green reaction sheet on page 9. Ask the students to look at the directions while you read them. *Quickly respond to the following questions concerning the educational or vocational materials which have just been presented to you. Circle the letter of the statement which best represents your reaction. Be honest--your reactions are confidential; they will be used for research purposes only.* Allow a minute to answer the three questions.

11. Ask the students to turn to the last page (i.e., page 10) of their booklets. Read the following statement to them. *There are two more points I would like to mention which are noted here on the last page.* (All the words in quotation marks are printed in their booklets, page 10.) *First, "there are additional materials in the library on the Regional Vocational Center and the courses taught there. If you are interested in seeing them, ask the librarian, Mrs. Collins, and she will help you." Second, "the vocational counselor, Mr. Fechter, would be happy to talk with any students who would like to get more information about the Regional Vocational Center. If you would like to get more information, fill in your name on the form at the bottom of the page, tear off the form along the dotted line, and drop the form in the box labeled 'Counselor Request' by the door as you leave the room today."*

Closing remarks: *Thank you very much for participating and reacting to these materials. Would you please pass your Student Response Booklet to the front person in your row of desks? Do not forget to tear out the counselor request form if you would like to talk to the counselor. When the bell rings, you are dismissed.*

INSTRUCTIONS TO ADMINISTRATOR

(Study B Booklet Treatment)

Wait until groups of students from the other two rooms arrive. When they arrive and are seated, you are ready to begin.

1. Introduce the guidance activity in the following manner. *You will remember that yesterday you participated in the first session of this study on vocational tests and materials. You will recall that students in several high schools in the Bay Area are involved in this American Institutes for Research project. Today we want your reactions to some materials on the Regional Vocational Center. You will have five minutes to read quickly each of four sections of printed materials. After each section, you will be asked to answer questions. The materials and the questions are in the Student Response Booklets which I now will pass out. Do not open the booklets until you are told to do so.*
2. Pass out a Student Response Booklet to each student. Ask each student to write his full name on the booklet.
3. Say to the students: *Now open your booklets and read the first section on Metals Technology. Begin reading now.*
4. Allow five minutes reading time. At the end of five minutes say: *Now answer the questions for Section 1 (on Metal Technology) in your booklet.*
5. Allow a minute for them to answer. Then say: *Now turn the page and quickly check your answers to the questions for Section 1.*
6. Allow a minute for the students to check their answers to the questions. Then say: *Now read the next section of materials on Dry Cleaning.*

This material was prepared under Grant #OEG-9-9-140099-0008(057), Research Project 8-I-099, with the Office of Education, U. S. Department of Health, Education, and Welfare. January 1970.

7. Allow five minutes. Then instruct the students to answer the questions on Dry Cleaning in their booklets. After a minute have them read the answers to the questions. Then start reading the next section of Electro-Mechanical.
8. Again allow five minutes to read the section on Electro-Mechanical, one minute to answer the questions, and one minute to read the answers to the questions.
9. Do the same with the final section on Coatings Technology.
10. When the students have finished reading the answers to the questions on Coatings Technology, ask them to turn to the green reaction sheet. Ask the students to look at the directions while you read them. *Quickly respond to the following questions concerning the educational or vocational materials which have just been presented to you. Circle the letter of the statement which best represents your reaction. Be honest--your reactions are confidential; they will be used for research purposes only.* Allow a minute to answer the three questions.
11. Ask the students to turn to the last page (i.e., page 10) of their booklets. Read the following statement to them. (All of the words in quotation marks are printed in their booklets, page 10.) *There are two more points I would like to mention which are noted here on the last page. First, "there are additional materials in the library on the Regional Vocational Center and the courses taught there. If you are interested in seeing them, ask the librarian, Mrs. Collins, and she will help you." Second, "the vocational counselor, Mr. Fechter, would be happy to talk with any students who would like to get more information about the Regional Vocational Center. If you would like to get more information, fill in your name on the form at the bottom of the page, tear off the form along the*

dotted line, and drop the form in the box labeled 'Counselor Request' by the door as you leave the room today." **Hold up the box and then put it by the exit door.**

Closing remarks: *Thank you very much for participating and reacting to these materials. Would you please pass your Student Response Booklet to the front person in your row of desks? Do not forget to tear out the counselor request form if you would like to talk to the counselor. When the bell rings, you are dismissed.*

INSTRUCTIONS TO ADMINISTRATOR
(Study B Baseline Control)

Pass out one sheet to each student.

This morning I would like to call your attention to some important information on these sheets when I just passed out.

Read the sheet along with the students.

Here is the counselor request box (hold up the box) *and I will place it by the door. Be sure to complete the form and put it in the box if you are interested in getting more information.*

Thank you very much for your time.

APPENDIX S

INSTRUCTIONS TO ADMINISTRATORS

First Administration of Vocational Education Attitude Questionnaire

Good morning. My name is _____. Over the past few years, many attempts have been made at helping people, particularly high school students, to make wiser vocational choices based on accurate information.

Many of the vocational tests and materials which have been developed do not seem to be very effective. Therefore, the American Institutes for Research is trying to study old and new ideas on tests and materials, as well as to observe the students who will use them.

In a number of schools in the Bay Area, the American Institutes for Research is surveying different groups of students. Today's session is the first one in a series with students in this school. In a few days we will be returning with other materials, but this morning we would like to get your reactions to this form. Please print your full name at the top of the form. Then read the directions carefully and begin work.

Pass out one copy of the Vocational Education Attitude Questionnaire to each student.

When all the students have completed the form, collect all the forms.

This material was prepared under Grant #OEG-9-9-140099-0008(057), Research Project 8-I-099, with the Office of Education, U. S. Department of Health, Education, and Welfare. January 1970.

INSTRUCTIONS TO ADMINISTRATOR

Second Administration of Vocational Education Attitude Questionnaire

Read the following statement:

Good morning. Today is the third sessions of the study of vocational tests and materials which is being conducted by the American Institutes for Research. This morning we would once again like to get your reactions to the form which I now pass out. Please print your full name at the top of the form. Then read the directions carefully and begin work.

Pass out one copy of the Vocational Education Attitude Questionnaire to each student.

When all students have completed the form, collect all the forms.

INSTRUCTIONS TO ADMINISTRATORS

(Follow-up Session--Behavior Inventory)

1. Give each student a copy of the Educational Information-Seeking Behavior Inventory.
2. Ask them to fill in their name, age, sex, and the class period in the spaces in the top right hand corner.
3. Read the first page of instructions along with the students.
4. Tell the students to begin work. Distribute Forms A, B, C, and D to the students as they request them and answer any questions which they have.
5. When students have completed the inventory collect the inventories and thank them for their participation in the study.

REFERENCES

Asch, S. E. The doctrine of suggestion, prestige, and imitation in social psychology. Psychological Review, 1948, 55, 250-277.

Bandura, A. Behavioral modification through modeling procedures. In L. Krasner and L. P. Ullman (Eds.), Research in behavior modification. New York: Holt, Rinehart and Winston, 1965.

Bandura, A. Social-learning theory of identificatory processes. In D. A. Goslin and D. C. Glass (Eds.), Handbook of socialization theory and research. Chicago: Rand McNally, 1968.

Bandura, A. Principles of behavior modification. New York: Holt, Rinehart and Winston, 1965.

Bandura, A., & Kupers, C. J. The transmission of patterns of self-reinforcement through modeling. Journal of Abnormal and Social Psychology, 1964, 69, 1-9.

Bandura, A., & Mischel, W. Modification of self-impose delay of reward through exposure to live and symbolic models. Journal of Personality and Social Psychology, 1965, 2, 698-705.

Bay, S. Indices of poverty by rank order. Santa Clara, California: Santa Clara County Projects of Advances in Creativity in Education (SPACE), 1966.

Berlyne, D. E. Conflict, arousal and curiosity. New York: McGraw-Hill, 1960.

Berlyne, D. E. Curiosity and education. In J. D. Krumboltz (ed.), Learning and the educational process. Chicago: Rand-McNally, 1965.

Brayfield, A. H. Research on vocational guidance: Status and prospect. In H. Borow (Ed.), Man in a world at work. Boston: Houghton Mifflin Company, 1964.

Campbell, D. T., & Stanley, J. C. Experimental and quasi-experimental designs for research on teaching. In N. L. Gage (Ed.), Handbook of research on teaching. Rand McNally, 1963, 171-246.

Campeau, P. L. Selective review of literature on audio-visual media of instruction. In L. J. Briggs, P. L. Campeau, B. M. Gagne & M. A. May (Eds.), Instructional media: A procedure for the design of multimedia instruction, a critical review of the literature and suggestions for future research. Pittsburgh, Pa.: American Institutes for Research, 1967.

Clarke, R., Gelatt, H. B., & Levine, L. A decision-making paradigm for local guidance research. Personnel and Guidance Journal, 1966, 44, 512-517.

Conant, J. B. Slums and suburbs. New York: McGraw-Hill, 1961.

Dixon, W. J. (Ed.), Biomedical Computer Programs. Los Angeles: Health Sciences and Computing Facility, 1967.

Dixon, W. J. (Ed.) BMD Biomedical Computer Programs X-Series Supplement, University of California Press, 1969.

Edwards, A. L. Experimental design in psychological research (3rd. ed.). New York: Holt, Rinehart and Winston, 1968.

Elashoff, J. D. Analysis of covariance. Research Memorandum No. 34, Stanford Center for Research and Development in Teaching, 1968.

Flanagan, J. C., Dailey, D. T., Shaycoft, M. F., Orr, D. B., & Goldberg, I. Studies of the American high school. Project TALENT, Monograph Series, No. 2. Pittsburgh, Pa.: University of Pittsburgh, 1962.

Flanagan, J. C., Davis, F. B., Dailey, J. T., Shaycoft, M. F., Orr, D. B., Goldberg, I., & Neyman, C. A., Jr. Project TALENT: The American high school student, Final report. University of Pittsburgh, Cooperative Reserach Project No. 635, United States Office of Education, 1964.

Gelatt, H. B. Decision-making: A conceptual frame of reference for counseling. Journal of Counseling Psychology, 1962, 9. 240-245.

Gelatt, H. B. The influence of outcome probability data on college choice. Unpublished doctoral dissertation, Stanford University, 1964.

Gelatt, H. B., & Clarke, R. B. Role of subjective probabilities in the decision process. Journal of Counseling Psychology, 1967, 14, 332-341.

Gross, E. A sociological approach to the analysis of preparation for work life. Personnel and Guidance Journal, 45, 416-423.

Hamilton, J. A. Encouraging career decision-making with group modeling and structured group counseling. Unpublished doctoral dissertation, Stanford University, 1969.

Guilford, J. P. Fundamental statistics in psychology and education. New York: McGraw-Hill, 1956.

Holland, J. L. Major programs of research on vocational behavior. In H. Borow (Ed.), Man in a world at work. Boston: Houghton Mifflin, 1964.

Hovland, C. I., Harvey, O. J., & Sherif, M. Assimilation and contrast effects in reactions to communications and attitude change. Journal of Abnormal and Social Psychology, 1957, 55, 244-252.

Jones, G. B. Stimulating vocational exploratory behavior through film-mediated problems programmed for student response. Unpublished doctoral dissertation, Stanford University, 1966.

Krumboltz, J. D., Baker, R. D., & Johnson, R. J. Vocational problem-solving experiences for stimulating career exploration and interest: Phase II. Stanford University, U.S.O.E. Project No. 7-0111, Contract No. OEG-4-7-070111-2890, August, 1968.

Krumboltz, J. D., & Thoresen, C. E. The effect of behavioral counseling in group and individual settings on information-seeking behavior. Journal of Counseling Psychology, 1964, 11, 324-333.

Krumboltz, J. D., & Schroeder, W. W. Promoting career planning through reinforcement. Personnel and Guidance Journal, 1965, 44, 19-26.

Krumboltz, J. D., & Sheppard, L. E. The effect of a vocational problem-solving experience on career exploration and interest. Paper presented at American Educational Research Association meeting, Chicago, 1966.

Krumboltz, J. D., Thoresen, C. E., & Hosford, R. E. A study to determine how counseling procedures can be used to help students make decisions and plan more effectively. Stanford University, U.S.O.E. Project No. S-246, Contract No. OE-5-10-363, August, 1966.

Krumboltz, J. D., Varenhorst, B. B., & Thoresen, C. E. Non-verbal factors in the effectiveness of models in counseling. Journal of Counseling Psychology, 1967, 14, 412-418.

Lefkowitz, M., Blake, R. R., & Mouton, J. S. Status factors in pedestrian violations of traffic signals. Journal of Abnormal and Social Psychology, 1955, 51, 704-705.

Lumsdaine, A. A. Instruments and media of instruction. In N. L. Gage (Ed.), Handbook of research on teaching. Chicago: Rand McNally, 1963, 583-682.

Lindquist, E. F. Design and analysis of experiments in psychology and education. Boston: Houghton Mifflin, 1953.

Magoon, T. Innovations in counseling. Journal of Counseling Psychology, 1964, 11, 342-347.

Marston, A. R. Imitation, self-reinforcement, and reinforcement of another person. Journal of Personality and Social Psychology, 1965, 2, 255-261.

Michael, D. N., & Maccoby, N. Factors influencing the effects of student participation on verbal learning from films: Motivating versus practice effects, "feedback," and overt versus covert responding. In A. A. Lumsdaine (Ed.), Student response in programmed instruction. Washington: National Academy of Sciences, National Research Council, 1961, 271-293.

Mischel, W., & Grusec, J. Determinents of the rehearsal and transmission of neutral and oversize behaviors. Journal of Personality and Social Psychology, 1966, 3, 197-205.

Passow, A. H. Instructional content for depressed urban centers: Problems and approaches. In A. H. Passow, M. Goldberg and A. J. Tannenbaum (Eds.), Education of the disadvantaged. New York: Holt, Rinehart and Winston, 1968.

Roe, A. Personality structure and occupational behavior. In H. Borow (Ed.), Man in a world at work. Boston: Houghton Mifflin, 1964, 196-214.

Rosenbaum, M. E., & Tucker, I. F. The competence of the model and the learning of imitation and non-imitation. Journal of Educational Psychology, 1962, 63, 183-190.

Salt, A. F. Estimated need for skilled workers 1965-1975. Monthly Labor Review, 1966, 89, 365-371.

Scheffe, H. The analysis of variance. New York: Wiley, 1959.

Sheppard, L. E. Effects of a problem-solving procedure for stimulating vocational exploration. Unpublished doctoral dissertation, Stanford University, 1967.

Silverman, D. An evaluation of the relationship between attitudes toward self and attitudes toward a vocational high school. Journal of Educational Sociology, 1963, 36, 410-418.

Snedden, D. The vocational-education movement: A critical inventory of policies. In E. A. Lee (Ed.), Objectives and problems of vocational education. New York: McGraw-Hill, 1938, 353-389.

Super, D. E., Starishevsky, R., Matlin, N., & Jordaan, J. P. Career development: Self-concept theory. New York: College Entrance Examination Board, 1963.

Thoresen, C. E. Using appropriate models. American Psychologist, 1966, 21, 688.

Thoresen, C. E., & Krumboltz, J. D. Similarity of social models and clients in behavioral counseling: Two experimental studies. Journal of Counseling Psychology, 1968, 15, 393-401.

Thoresen, C. E., Krumboltz, J. D., & Varenhorst, B. B. Sex of counselors and models: Effect on client career exploration. Journal of Counseling Psychology, 1967, 14, 503-508.

Thoresen, C. E., & Mehrens, W. A. Decision theory and vocational counseling: Important concepts and questions. Personnel and Guidance Journal, 1967, 46, 165-172.

Tiedeman, D. V., & O'Hara, R. P. Career development: Choice and adjustment. New York: College Entrance Examination Board, 1963.

Ullman, L. P., & Kransner, L. (Eds.), Case studies in behavior modification. New York: Holt, Rinehart and Winston, 1963, 1-63.

Ulrich, R., Stachnick, T., Mabry, J. (Eds.), Control of human behavior. Glenview, Ill.: Scott, Foresman and Company, 1966.

Venn, G., Vocational education for all. National Association of Secondary School Principals Bulletin, 1967, 51, 32-40.

Woods, M. J. Employment problems of the Mexican-American. Presentation to Assembly Subcommittee on Special Employemtn problems, East Los Angeles College Auditorium, 10 January 1964.

Wrenn, C. G. The counselor in a changing world. Washington, D.C.: American Personnel and Guidance Association, 1962.

Weaver, W. J. Videotape new life into your recruitment program. Industrial Arts and Vocational Education, 1967, 56, 36.

Wenrich, R. C., & Crowley, R. J. Vocational education as perceived by different segments of the population. Cooperative Research Project No. 1577, U.S.O.E., 1964.

Winer, B. J. Statistical principles in experimental design. New York: McGraw-Hill, 1962.

Weisgerber, R. A. The effect of science motivational films on the attitudes of secondary school pupils toward the field of science. Unpublished doctoral dissertation, Indiana University, 1960.